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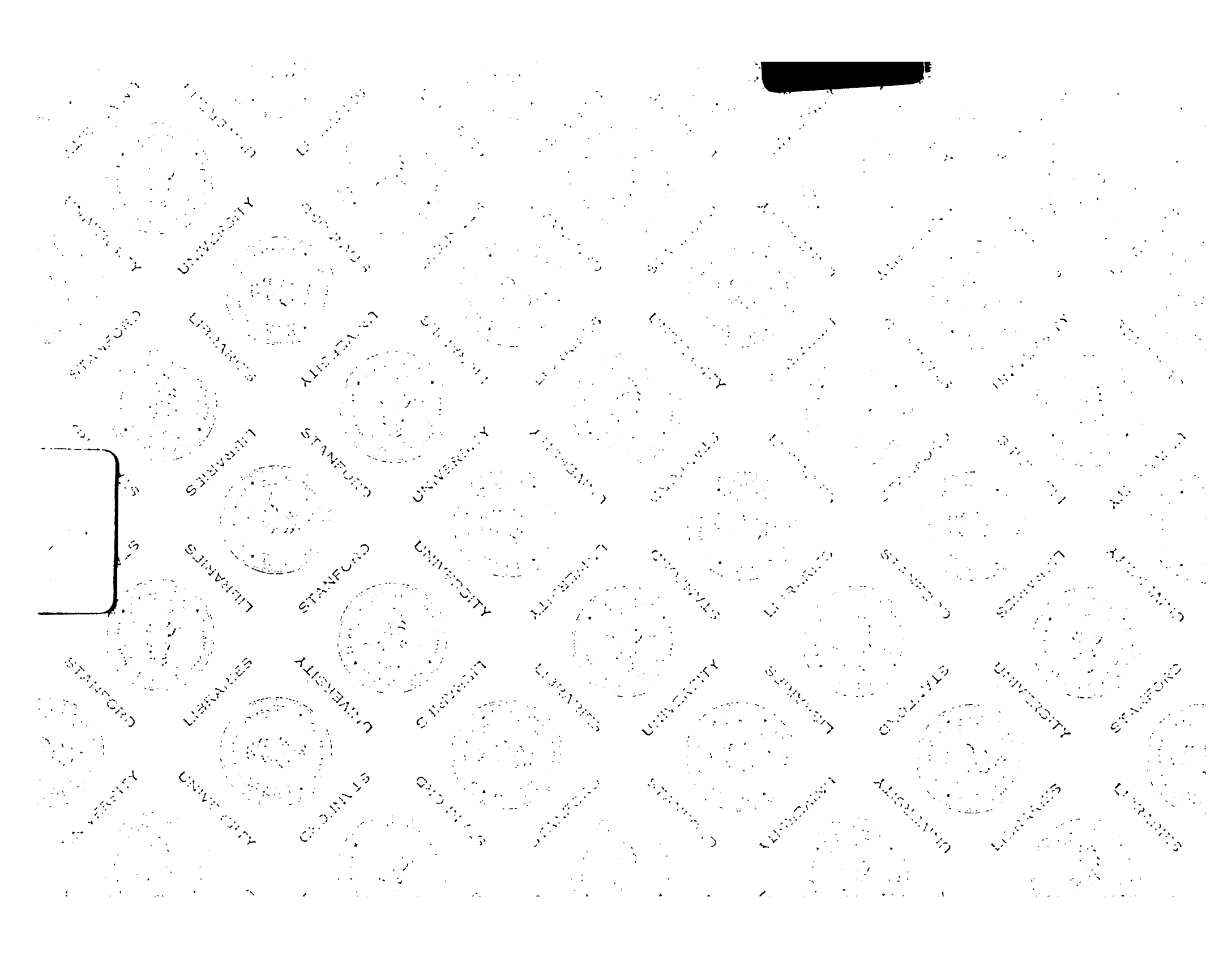
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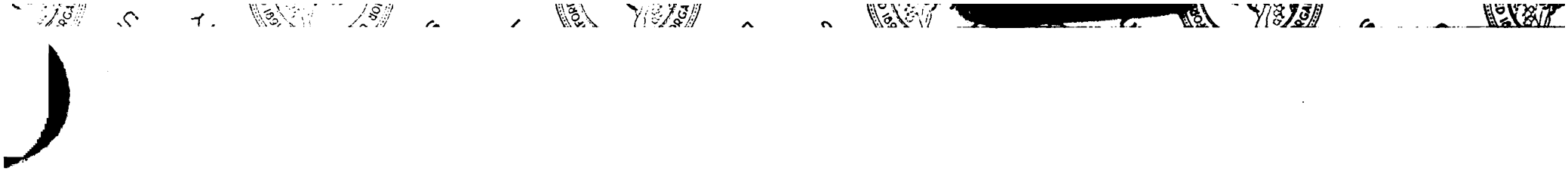
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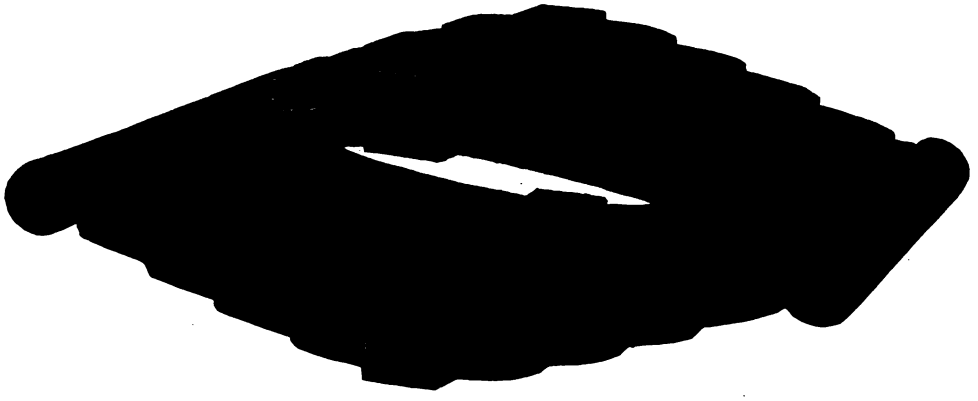
Canadian Transportation

Founded 1898 by Acton Burrows

TORONTO, JULY, 1950

AILWAYS ELECTRIC RAILWAYS TROLLEY COACHES AUTOMOTIVE *AIR* *MARINE*

Specify...



COGHLIN SPRINGS

The name Coghlin represents the finest quality of springs that modern engineering can produce. Our long experience in designing and manufacturing combined with careful testing and rigid inspection, guarantees an accurate, efficient and dependable product.

PROVED BY 81 YEARS' EXPERIENCE

ACK TOOLS AND SUNDRIES
also specialize in the manu-ure of Railway Track Tools. our tools have the quality, gn and finish required by exacting specifications of adian Railways.

B.J. COGHLIN CO. Limited

3320 ONTARIO STREET EAST

MONTREAL, CANADA

Established 1869

AGENTS

Filer-Smith Machinery Co. Limited	**C. M. Lovsted & Co. (Canada) Limited**
Winnipeg	**Vancouver**

Type MBJ MECO Curve Rail Lubricator



YOU get the greatest combination of advantages possible, when you install the improved Type MBJ Meco Curve Rail Lubricator:

Capacity of the Grease Tank is quadrupled.

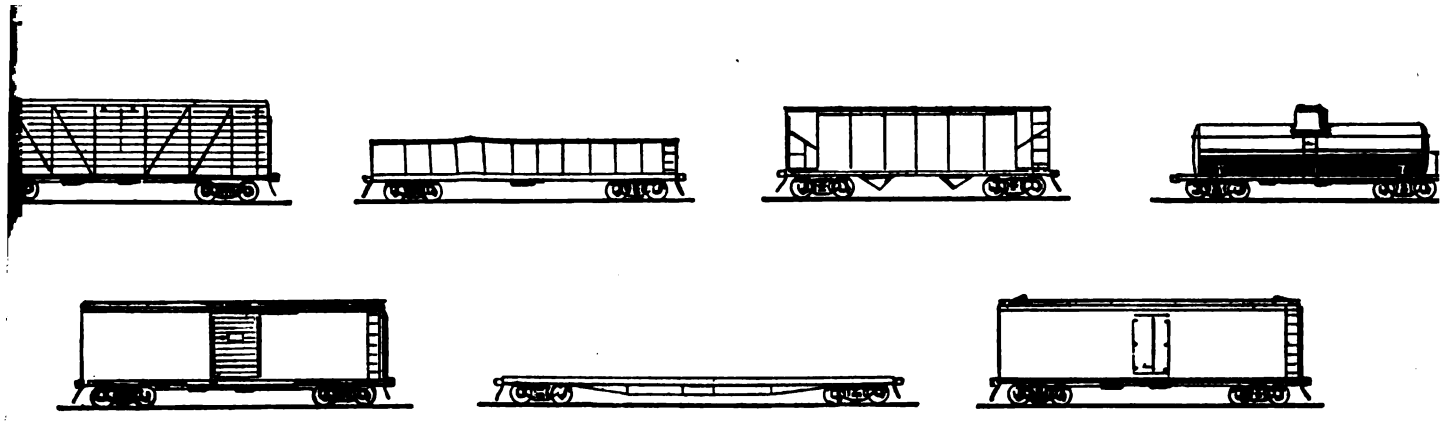
Actuating Mechanism is improved in all details.

Servicing and Inspection are simplified; all actuating parts, including pump, are visible and accessible without removing grease from tank.

The improved Type MBJ Meco Lubricator may be changed to other rail sections at small cost for parts.

THE P. & M. CO. LIMITED

Dominion Square Bldg.
MONTREAL



+ UNIT TRUCKS

= THE FINEST FREIGHT CARS MONEY CAN BUY....

Since 1940 UNIT TRUCK has typified

FREIGHT PROGRESS IN ACTION...

"LOOK AT THAT ASBESTOS ROOF! IT'S SMOOTH-SURFACED, TOO!"



Yes—it's a Johns-Manville

Asbestos Built-up Roof

THE SECRET of a Johns-Manville Built-Up Roof is in the *felts*. They're made of fireproof, rotproof, enduring *asbestos*. That's why years of trouble-free low-maintenance service are assured when your specification calls for a Johns-Manville *Asbestos* Built-Up Roof.

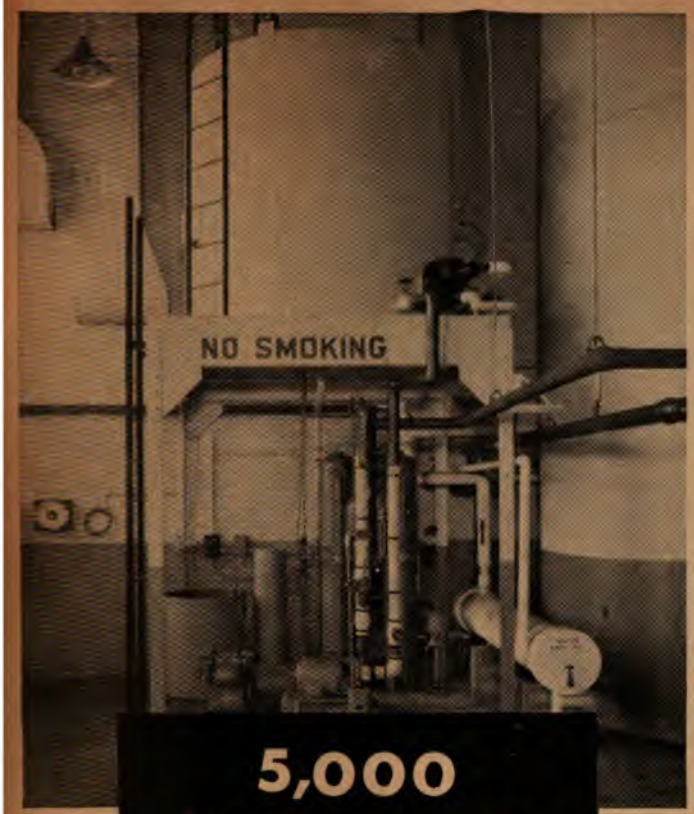
For roofs with a pitch of ½" or more to the foot, Johns-Manville recommends a Smooth-Surfaced Asbestos Built-Up Roof. Flat decks can be given the same dependable protection with a J-M Asbestos Felt, Pitch and Gravel roof. On any deck *asbestos felts add extra years of life!*

You can get up-to-date information on J-M roofing materials for every type of deck, from the Johns-Manville Roof Specification Manual. If you have not already received your free copy, write Canadian Johns-Manville, Dept. 596, 199 Bay St., Toronto 1, Ontario.



B-101

Johns-Manville Built-Up ROOFS JM



5,000 GALLONS PER DAY



80,000 GALLONS PER DAY

A DEARBORN DE-IONIZING SYSTEM...

TO PROVIDE THE AMOUNT OF MINERAL-FREE WATER YOU NEED

A Dearborn De-Ionizing system will provide the mineral-free water you need at less than 10 percent the cost of distilled water.

This mineral-free water, when conditioned with Dearborn formula 517, will provide proper Diesel cooling . . . eliminate mechanical failure of liners, heads and blocks caused by corrosion, scale and sludge deposits. But more than that, this combination will give you an adequate supply of scale-free, non-corrosive water for steam generators and storage batteries . . . for cooling systems of engine-driven auxiliary generators . . . for radiators of trucks, buses, scrapers, graders, cats.

A Dearborn engineer will discuss a De-Ionizing system to meet the requirements of your operation. The only information required is: (1) Analysis (or sample) of raw water; (2) quantity and quality of mineral-free water required; (3) available space for equipment; (4) raw water pressure and size of supply line; (5) available power characteristics.



HAVE YOU REQUISITIONED YOUR DEARBORN CHROMOKIT?

It provides a fast, simple, accurate and economical way to determine the chromate content of your Diesel cooling water. Only $7.50 each.

INFORMATION ON DE-IONIZING SYSTEMS

A copy of "Dearborn De-Ionizing Systems," containing valuable information about how to secure the mineral-free water you need, will be sent upon request.



DEARBORN CHEMICAL COMPANY LTD.
2454 Dundas St. West, Toronto 9, Ontario
Montreal - Saint John

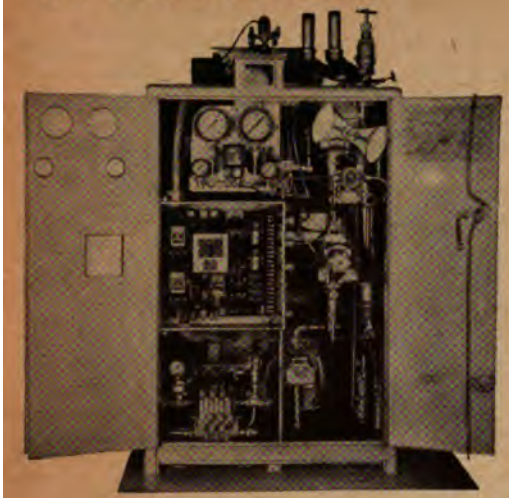
Dearborn
TRADE MARK REGISTERED
THE LEADER IN WATER TREATMENT AND RUST PREVENTIVES

Dearborn Chemical Company, Ltd.
Dept. CT, 2454 Dundas St. W., Toronto 9

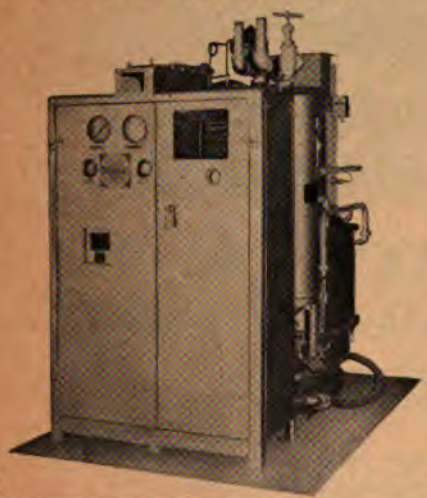
() Please send booklet "Dearborn De-Ionizing Systems"
() Have a Dearborn Engineer call.

Name _____
Railroad _____
Address _____
City _____ Province _____

THE SAME SIMPLICITY OF CONTROLS DEVELOPED FOR O.K. STEAM GENERATORS



. AND A NEW COMBUSTION CHAMBER WITH INTENSI-FIRED COMBUSTION



1. New 2500 lb. rating (3000 lb. Top Capacity) steam generator is about the same size and weight as 1600 lb. generator but almost twice the capacity. New 4000 lb. rating (4800 lb. top capacity) will occupy same space as present 3000 lb. rating steam generator.
2. Many railroads propose using dual 2500 lb rating generator to provide flexibility and top reserve capacity.
3. 99% dry steam for highest efficiency.
4. Maximum efficiency of heat transfer — new low in stack temperatures.
5. Full steam pressure from cold start in 2 minutes.
6. Can be put in corner of locomotive — on either wall.
7. All servicing is from front of unit.





At a meeting of mechanical and operating men held recently at the Vapor plant detailed discussion and a demonstration of all phases of Intensi-Fired Steam Generator operation was conducted. These talks have been included in an illustrated booklet, giving complete details about this new development. Write for Bulletin No. 509.

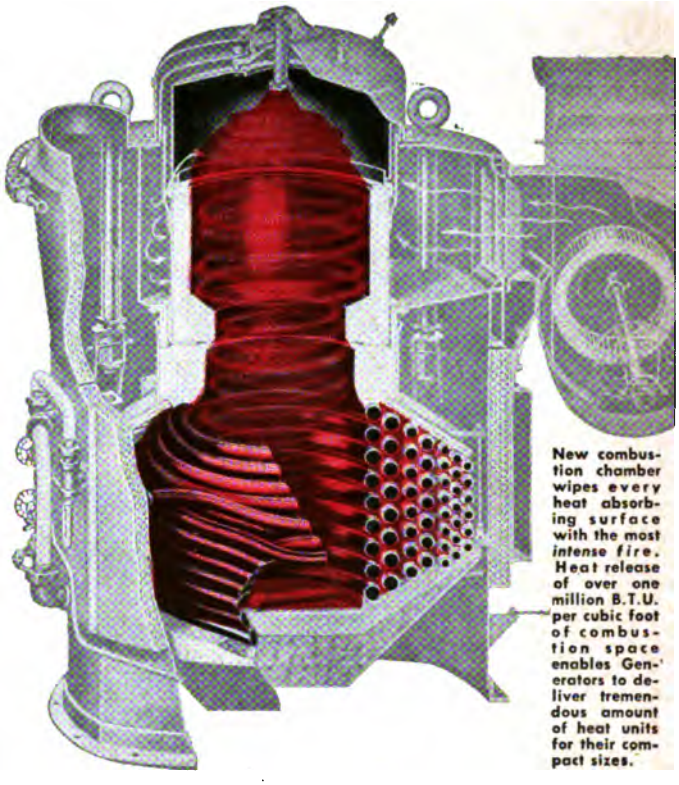
A RESERVE OF STEAM SUPPLIES FULL NEEDS OF LONGEST TRAINS IN MOST SEVERE WEATHER

VAPOR CAR HEATING CO

THE MOST EFFICIENT STEAM GENERATOR EVER DEVELOPED

FOR USE IN DIESEL LOCOMOTIVES

VAPOR "OK" CONTROLS
INTENSI-FIRED!
VAPOR INTENSI-FIRED COMBUSTION



New combustion chamber wipes every heat absorbing surface with the most *intense fire*. Heat release of over one million B.T.U. per cubic foot of combustion space enables Generators to deliver tremendous amount of heat units for their compact sizes.

The development of the new Vapor OK 4625 Intensi-Fired Steam Generator has advantages for departments thruout your Road. To the *mechanical department* it brings the most efficient means of providing steam heat ever developed. To the *maintenance department* it brings simplified controls with less servicing and easier access for maintenance. *Passenger traffic departments* welcome the new Vapor OK 4625 Intensi-Fired Steam Generator — length of trains are no longer limited by boilers whose capacities cannot provide ample steam in ordinary operation or under emergency conditions. *Executive departments* recognize the public relations value of assuring passengers ample heat under all operating conditions.

E CANADA LIMITED, 65 Dalhousie Street, Montreal, Que.



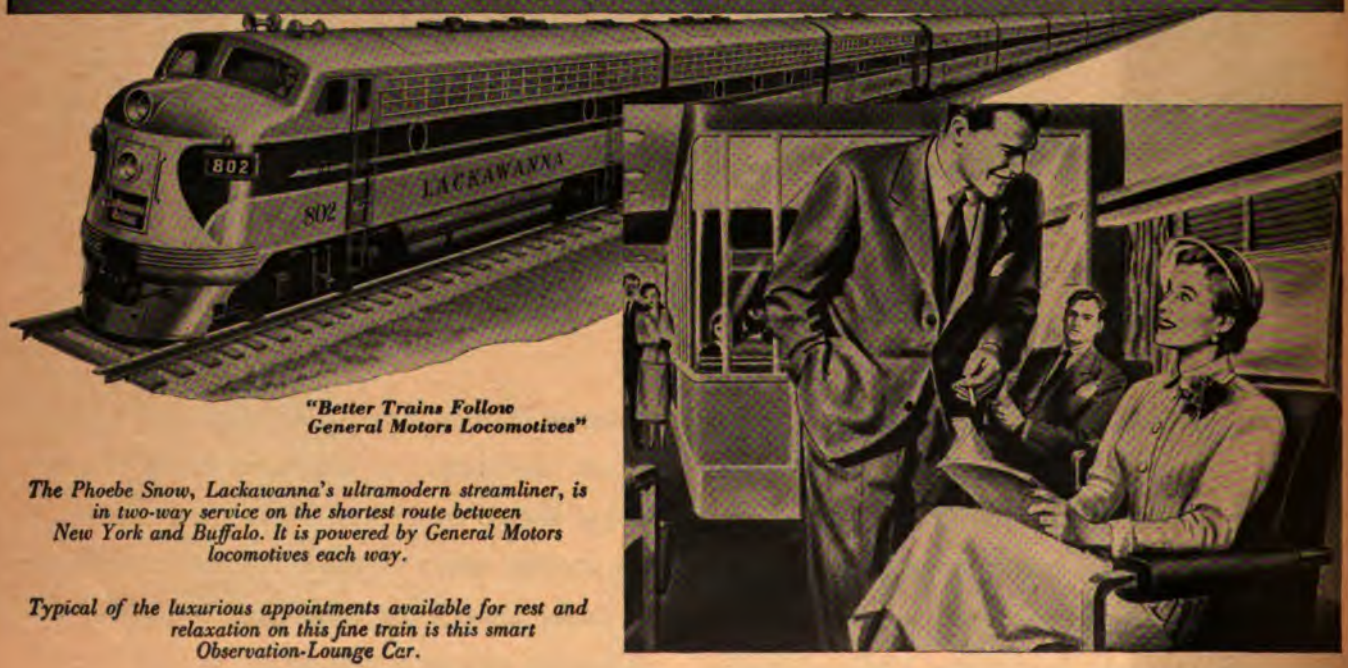
1910

Says Phoebe Snow about to go*
Upon a trip to Buffalo
"My gown stays white from morn till night
Upon the road of Anthracite."

1950

But says the modern Phoebe Snow
In pretty frock with eyes aglow
As she departs for Buffalo
"No smoke or film my gown to stain,
No jerks or jolts or nervous strain,
A GM Diesel pulls my train."

*Famous character created in Lackawanna advertising in the late nineties



"Better Trains Follow General Motors Locomotives"

The Phoebe Snow, Lackawanna's ultramodern streamliner, is in two-way service on the shortest route between New York and Buffalo. It is powered by General Motors locomotives each way.

Typical of the luxurious appointments available for rest and relaxation on this fine train is this smart Observation-Lounge Car.

For a clean, smooth, jolt-free ride at any time, to anywhere, pick a train powered by a General Motors Locomotive.

GENERAL MOTORS DIESEL, LTD.

GENERAL OFFICES AND PLANT—LONDON, ONTARIO

Sales Headquarters INTERNATIONAL AVIATION BLDG.—MONTREAL

GM
GENERAL MOTORS
LOCOMOTIVES

AAR CERTIFICATE No. 1



THE *Symington** COMPOSITE ARTICULATED JOURNAL BOX LID

TESTED UNDER AAR SUPERVISION AND GRANTED AAR APPROVAL CERTIFICATE NO. 1

LIGHT WEIGHT • STURDY



LID . . . reinforced pressing, flanged on all four sides.



HOUSING . . . cast malleable iron with hinge pin bearing surfaces of large area.

POSITIVE SEAL

CENTER PRESSURE



Provides constant, equal pressure—on all four sides of the lid. Ball and socket joint between lid and housing makes lid self-adjusting. Full articulation regardless of hinge lug wear and tight joint are ensured.

EASY TO INSTALL

1. Place in horizontal position over hinge lug.
2. Insert pin.
3. Partially close lid until spring tension is greatest. Then remove hairpin and close lid all the way —lid is installed! Simple. Easy. Quick.



Manufactured in Canada

REDUCED WEAR

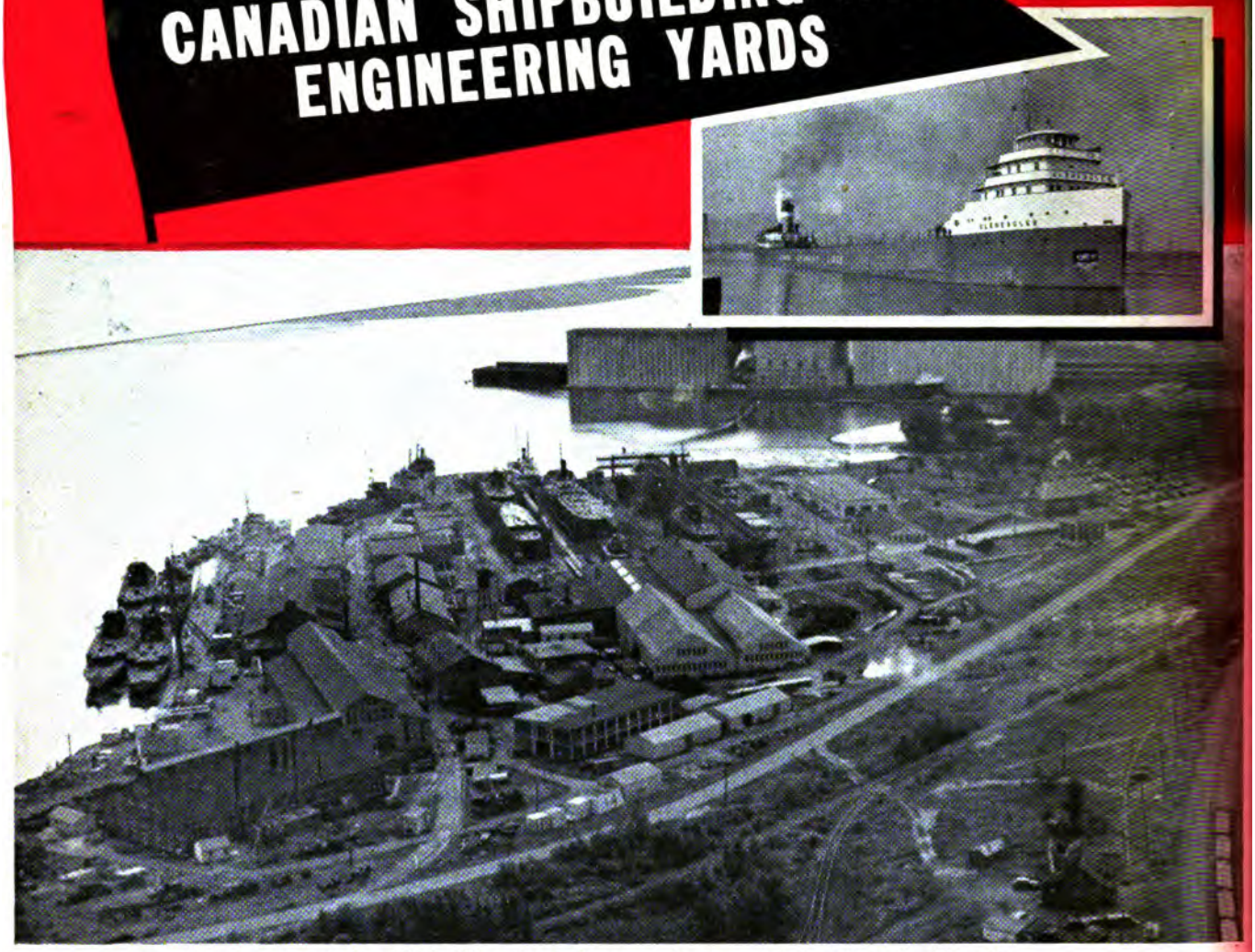


1. **HINGE LUG WEAR** *reduced* by equipping the torsion spring with a roller of adequate diameter and width which bears against the hinge lug.
2. **HOUSING WEAR** *decreased* by hinge pin bearing surfaces of large area.
3. **LID WEAR** *minimized* by light weight construction and adequate center pressure to insure tight fit and prevent vibration.

ADANAC SUPPLIES LIMITED

974 ST. ANTOINE STREET -- MONTREAL

All types of vessels can be handled at CANADIAN SHIPBUILDING AND ENGINEERING YARDS



Port Arthur Shipbuilding Co. Ltd., one of the Company's four Ontario shipyards

THE CONSTRUCTION of the country's largest oil tanker, cargo vessel or passenger steamer, down to the smallest craft . . . the rebuilding, repairing or repainting of any make of boat . . . all are jobs successfully handled at the Canadian Shipbuilding and Engineering shipyards. With a century of shipbuilding experience behind them, these centres are fully equipped to offer stout workmanship at economical rates.

The Company is proud of its record of production—not only for the size and types of ships launched from the four yards but also for the speed with which their contracts have been completed. A record was set by the Collingwood centre only last year, when the S.S. NORGOMA, laid down on October 31st, was launched on December 22nd, with an interval of merely 40½ working days.

Canadian Shipbuilding and Engineering is the parent company for four of the five Canadian shipbuilding and repair yards controlled by Canada Steamship Lines, the world's largest inland water transportation company.

All enquiries promptly acknowledged and information supplied on request.



CANADIAN SHIPBUILDING AND ENGINEERING COMPANY LIMITED

COLLINGWOOD · KINGSTON · PORT ARTHUR · **MIDLAND**

Shipbuilding subsidiary of

CANADA STEAMSHIP LINES LIMITED

759 VICTORIA SQUARE, MONTREAL P.Q.

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CANADIAN NATIONAL TELEGRAPHS

CLASS OF SERVICE DESIRED
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CHECK | RECEIVERS NO | TIME FILED | CHARGE DEPT OR ADDRESS

Send the following message, subject to the terms on back hereof, which are hereby agreed to

JUNE 9, 1950

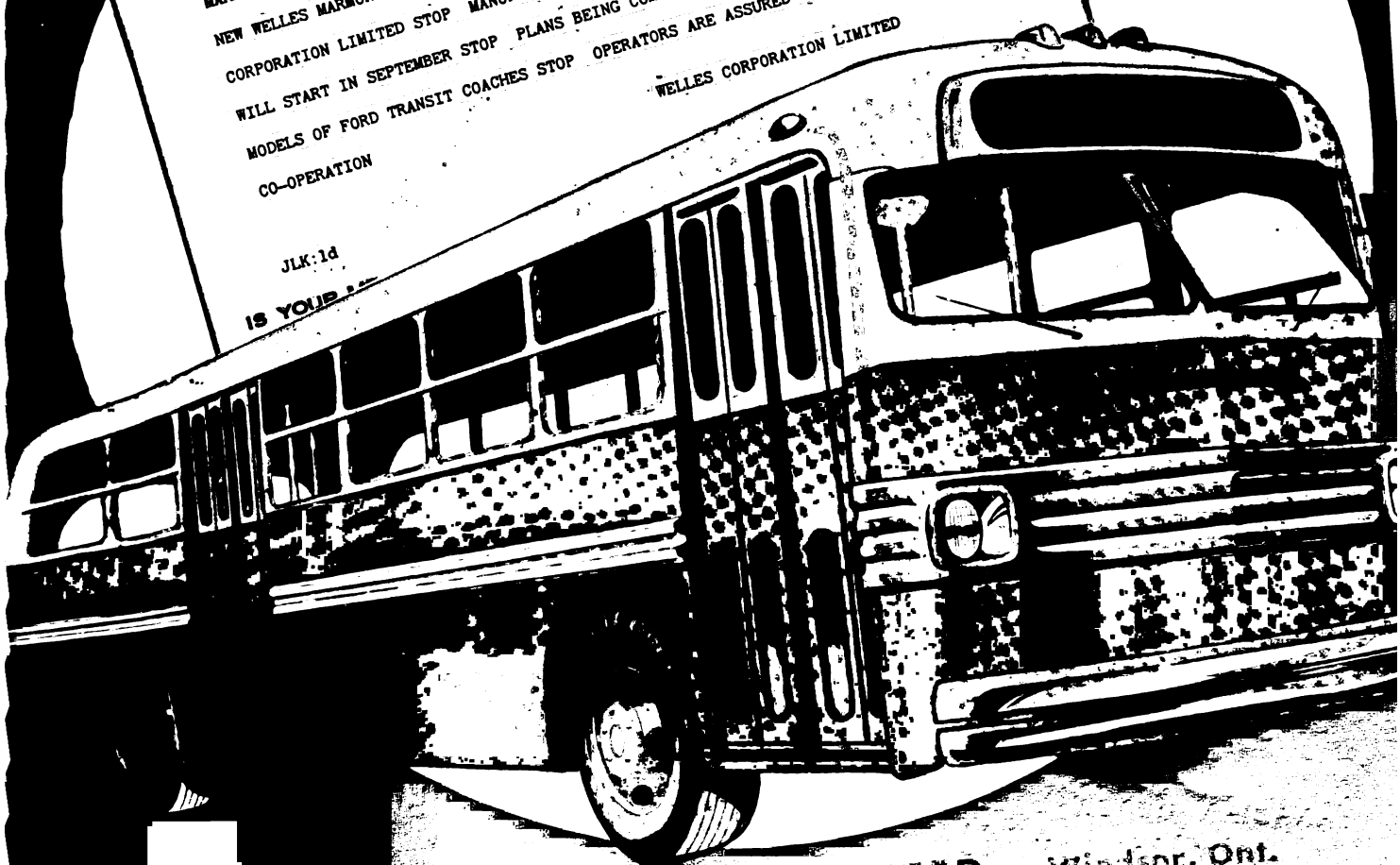
J.F. NEILD, SECRETARY
CANADIAN TRANSIT ASSOCIATION.
35 YONGE ST., TORONTO, ONT.

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WELLES CORPORATION LIMITED

JLK:ld

IS YOUR

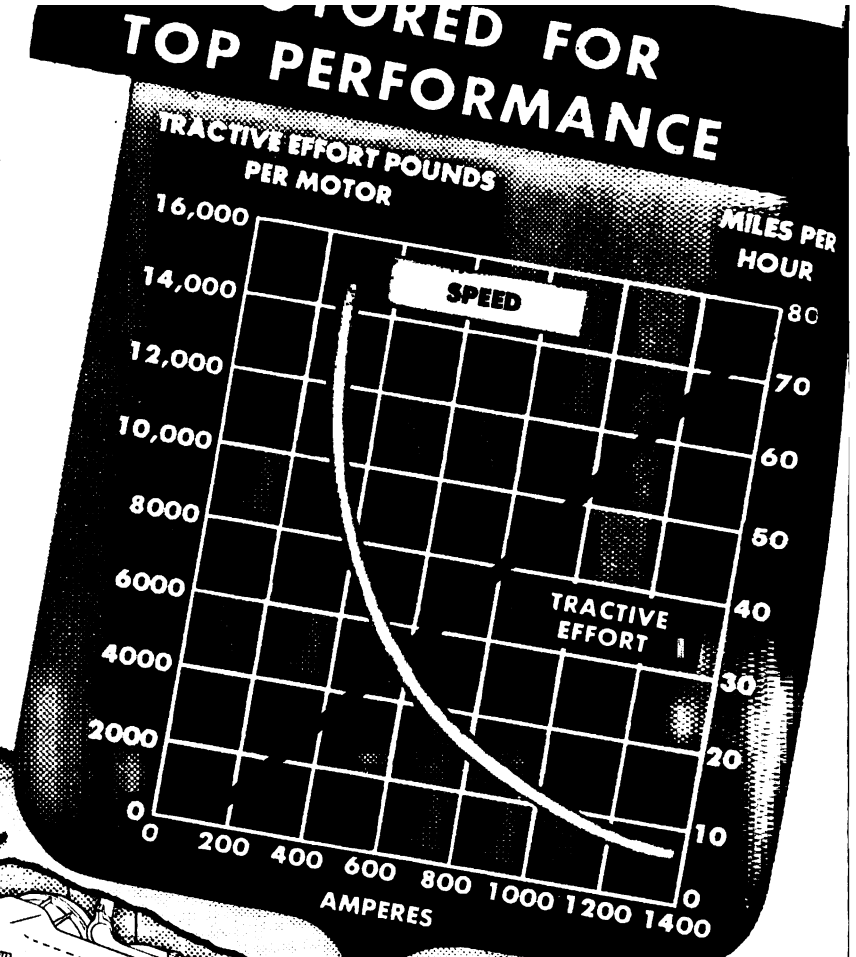


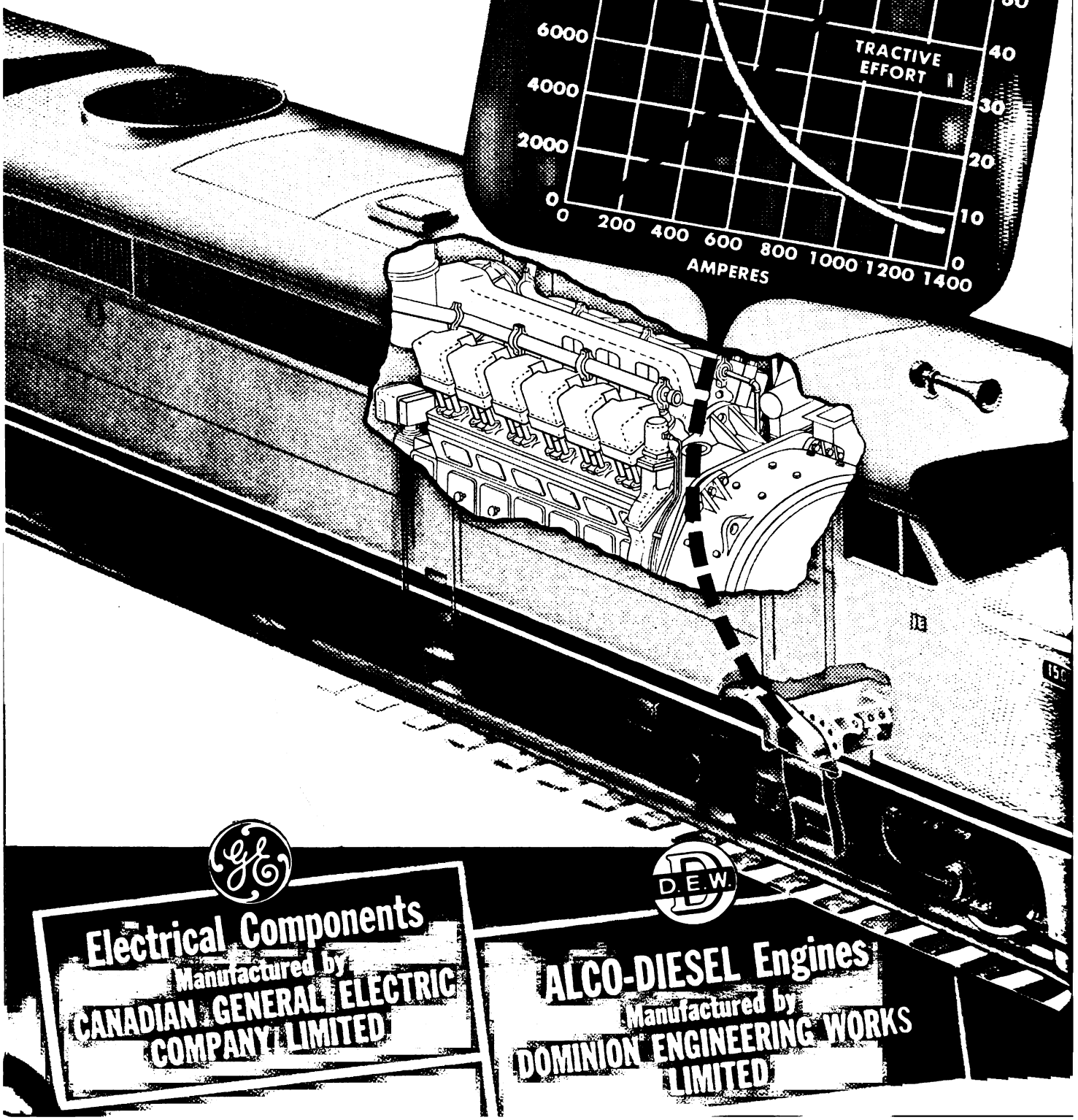
CORPORATION LIMITED • Windsor, Ont.

VANCOUVER
915 Granville St.
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...TORED FOR TOP PERFORMANCE

The stamina and reliability of the GE-752 traction motor have been proved in service on leading railways in Canada and the rest of the North American Continent. Millions of miles of service in every class of passenger, freight and switching service are behind this new design.





Electrical Components
Manufactured by
CANADIAN GENERAL ELECTRIC COMPANY LIMITED

ALCO-DIESEL Engines
Manufactured by
DOMINION ENGINEERING WORKS LIMITED

WER locomotives
ıul MORE trains faster

To help you increase the earning power of your road in the face of growing competition, the new MLW-GE diesel-electric performs two vital services. It makes it possible to increase freight loadings by greatly improving schedules, and it makes it possible to turn a larger portion of the revenue into net profit by reducing motive-power investment and operating cost.

In this great proved-in-service locomotive, the high inherent availability and speed of the diesel-electric have been enhanced by higher tonnage ratings. This permits railways to further reduce the number of locomotives required and still improve service to shippers.

Such availability and speed are the results of a locomotive proved in service on leading Class 1 railways in the U.S. This design includes a powerful 12-cylinder diesel engine high-level turbosupercharger, specially developed generator, power plant regulating system and engine cooling system. And converting all this surging power into tractive effort is a superb motor which has proved in millions of miles of service that it has the rugged characteristics on which depend the handling of more trains at faster speeds with fewer locomotives.

The unusually high continuous and short time tractive ratings of this GE-752 traction motor allow you to haul more tonnage over a given profile. Optional gearing permits you to select the range of speed best suited to your operating conditions. The combined result is a motor—and a locomotive—that will enable you to move more tons over greater distances in less time and enable you to get more work from fewer motive power units.

Built in Canada, this mighty freight locomotive is bringing new earning power to Canadian railways.



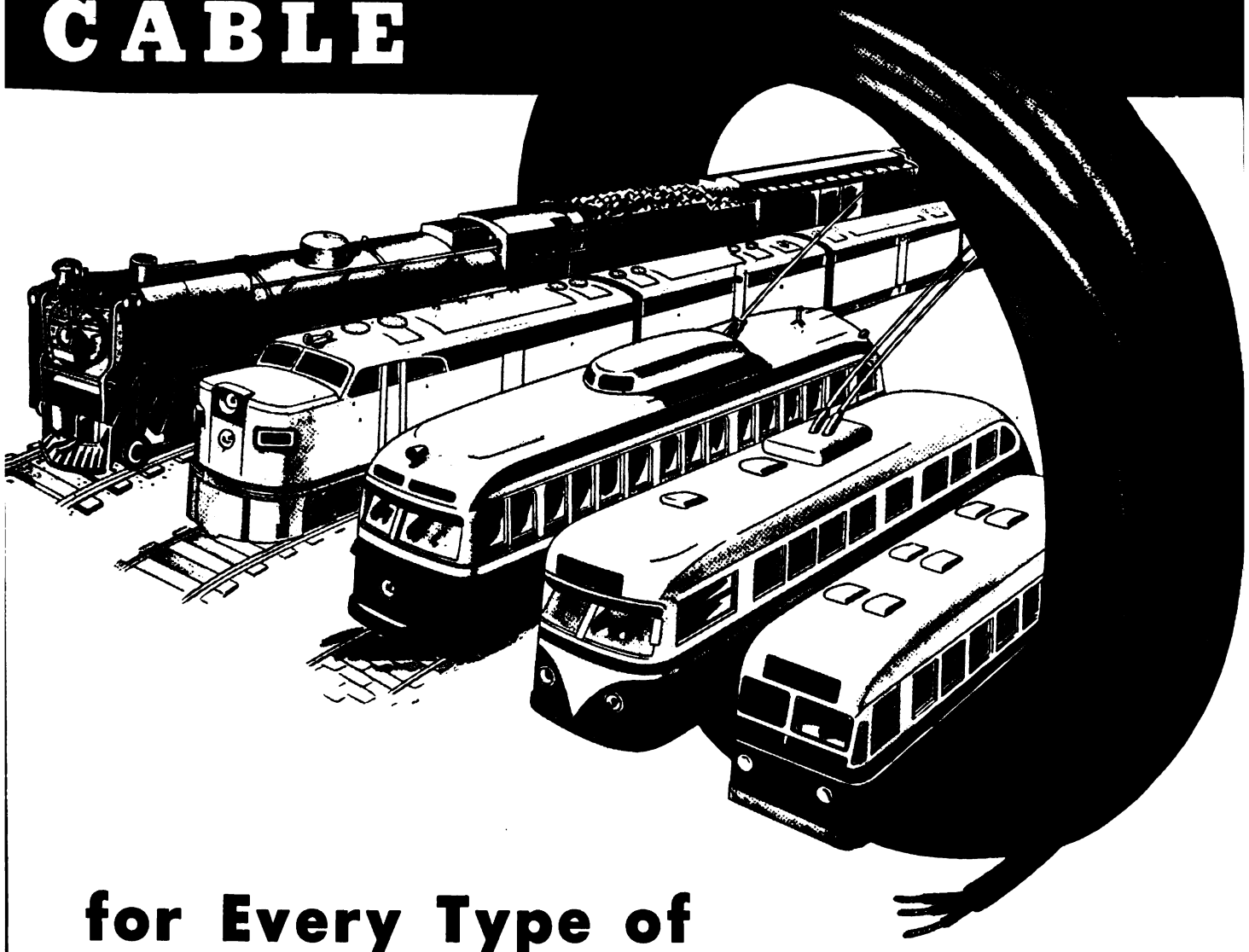
Built in Canada

50-BM-5

MONTREAL LOCOMOT
WORKS LIMITED
MONTREAL - QUEBEC

GENERAL ELECTRIC

WIRE and CABLE



for Every Type of TRANSPORTATION VEHICLE

Canadian General Electric manufactures a complete line of wire and cable for steam locomotive, diesel-locomotive, railway car, street car, trolley-coach and gas bus wiring and fabrication. This complete line includes, locomotive headlight wire and cab cords, car wiring cables, train jumper and railway signal cable, control cable, line wire, automotive wire and cable, telephone wire, power cable, portable cable, motor lead cable, welding cable and Formex, textile covered, asbestos and glass insulated magnet wire.

For Further information write or telephone the C.G.E. office nearest you.

49-JA-14

CANADIAN GENERAL ELECTRIC CO LTD

NO OTHER BEARING WITH SO MUCH TO OFFER!



1 No roll skidding or skewing! Timken tapered roller bearing rolls are held in positive alignment by wide-area contact between the rolls and the rib of the cone. Wear is reduced and bearing life prolonged due to the elimination of skidding or skewing motion of the rolls.

2 Rolls uniformly sized for their particular cup and cone. Each roll carries its full share of the load.

3 No lateral sliding friction in a Timken bearing, due to its tapered design.

4 Rolls stay put . . . for life! The rolls in a Timken tapered roller bearing are permanently retained in the bearing assembly. Can't fall out and pick up dirt during bearing changes.

5 Hard on the outside—tough on the inside! Rollers and races made of Timken fine alloy steel with wear-resisting surface and tough, shock-resistant core.

6 No special thrust blocks needed. Timken bearings take *both* radial and thrust loads!

7 Use either oil or grease!

8 No adjustments needed when wheel and axle assembly are installed in the truck.

9 Axle magnaflux inspection simplified! Bearings press off with the wheel.

10 Polished axle ends aren't necessary! No thrust block used.

11 Special axle length tolerances not required!

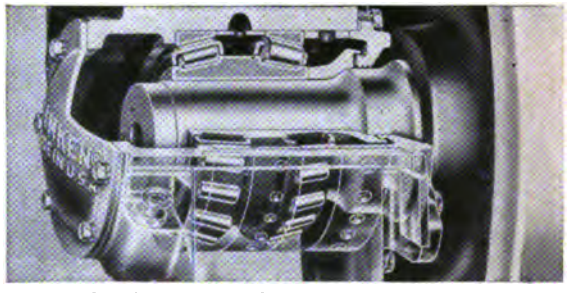
NO OTHER BEARING SO FULLY PROVED!

USED ON OVER 5,000 PASSENGER CARS, OVER 6,000 STEAM, DIESEL AND ELECTRIC LOCOMOTIVES, 3,900 FREIGHT CARS!

Pioneer of anti-friction bearings for railroads, Timken has remained the leader ever since.

The advantages of Timken bearings have been conclusively proved in every type of railroad operation. Over 5000 passenger cars roll on Timken bearings—more than on any other make of anti-friction bearing. Over 3900 freight cars roll on Timken bearings—more than on any other make of anti-friction bearing. Over 4000 steam locomotives roll on Timken bearings—more than on any other make of anti-friction bearing.

Let us help you with your bearing applications. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO". *Canadian Representatives for Timken Bearings for Railroads: Railway & Power Engineering Corp., Ltd., New Glasgow, Montreal, Noranda, North Bay, Toronto, Hamilton, Windsor, Winnipeg, Edmonton, Vancouver.*



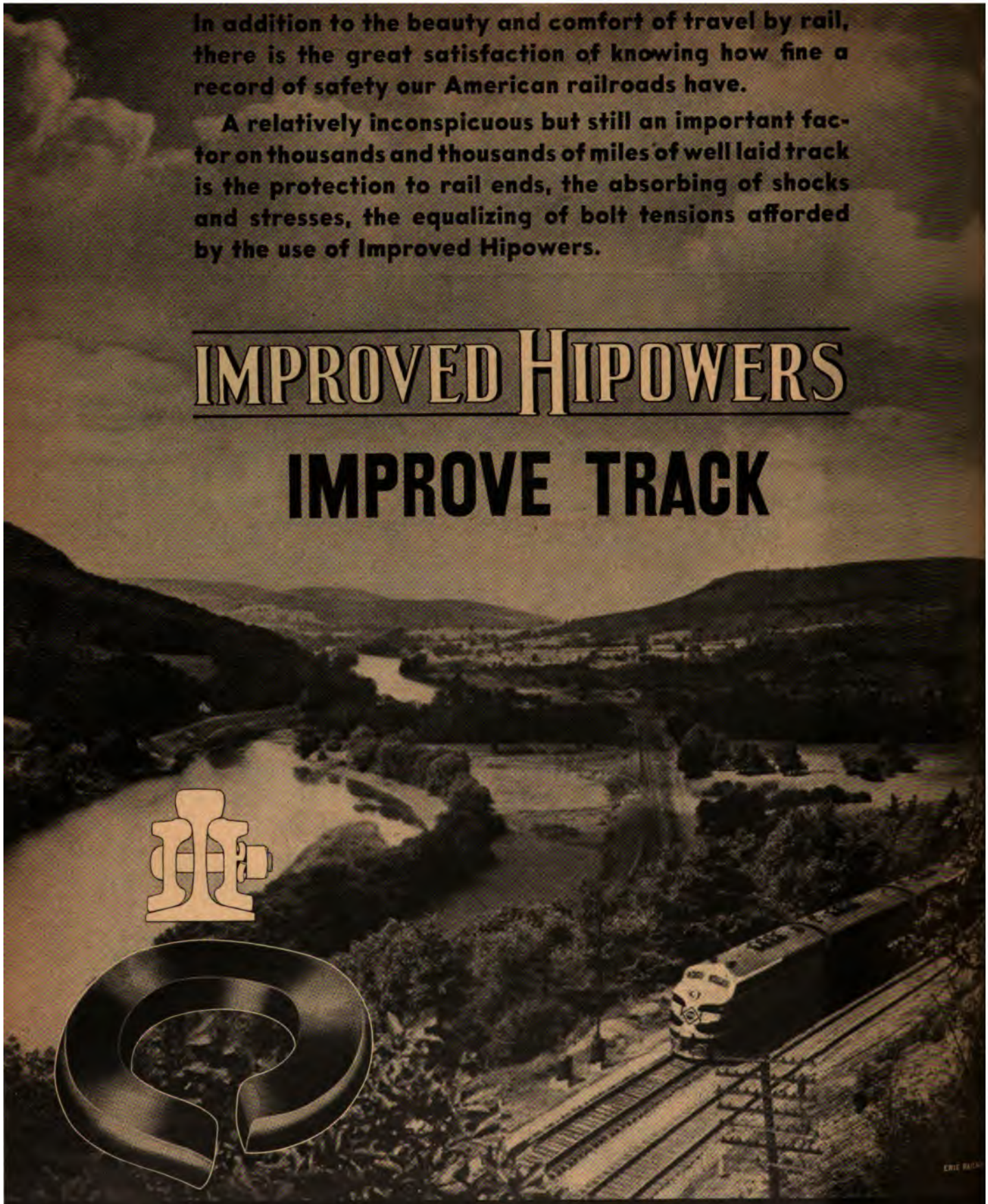
Timken bearing application for passenger cars

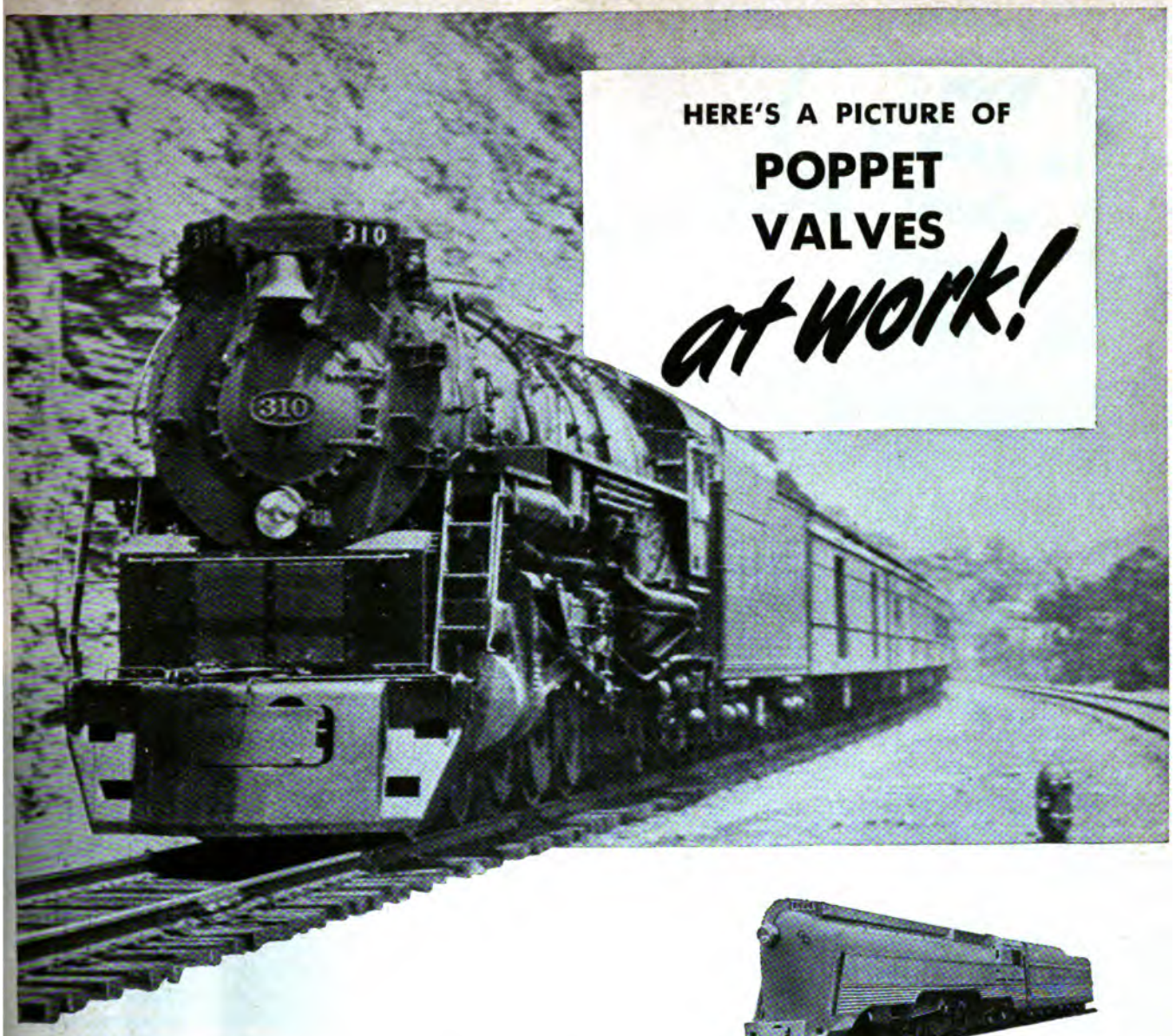
TIMKEN

TRADE-MARK REG. U. S. PAT. OFF. AND IN CANADA

TAPERED ROLLER BEARINGS

NOT JUST A BALL ◯ NOT JUST A ROLLER ⬭ THE TIMKEN TAPERED ROLLER ⬭ BEARING TAKES RADIAL ◎ AND THRUST →◎← LOADS OR ANY COMBINATION ✳


In addition to the beauty and comfort of travel by rail, there is the great satisfaction of knowing how fine a record of safety our American railroads have.
A relatively inconspicuous but still an important factor on thousands and thousands of miles of well laid track is the protection to rail ends, the absorbing of shocks and stresses, the equalizing of bolt tensions afforded by the use of Improved Hipowers.
IMPROVED HIPOWERS
IMPROVE TRACK
THE NATIONAL LOCK WASHER COMPANY, NEWARK 5, N. J., U. S.
A COMPLETE LINE OF RAILWAY SPRING WASHERS
Distributed in Canada by:
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NEW GLASGOW • MONTREAL • NORANDA • NORTH BAY
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Corporation Limited



HERE'S A PICTURE OF

POPPET VALVES *at work!*

This is C&O's No. 310 with "The Sportsman" — one of 10 locomotives on this road equipped with the Franklin System of Steam Distribution and poppet valves.

Poppet valves, and the associated improvements, will raise the operating efficiency of any locomotive. They will enable a locomotive, modernized or new, to handle more tons — faster — with less fuel and lower maintenance.

This is one of C&O's five completely rebuilt 4-6-4's. Modernization included application of Boosters ® and the Franklin System of Steam Distribution. These locomotives have 24 to 36 months of service behind them.



This is one of C&O's five new 4-6-4's built with Boosters ® and the Franklin System of Steam Distribution, as initial equipment.

FRANKLIN RAILWAY SUPPLY COMPANY, CANADA, LTD.

MONTREAL, QUE.

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

How to pack a wheel bearing and...

...REDUCE MAINTENANCE COSTS with TEXACO MARFAK HEAVY DUTY



1. Place a *small amount* of *Texaco Marfak Heavy Duty* on fingers of one hand. Hold bearing (cleaned with kerosene, and thoroughly dried) as shown—small diameter facing out.



2. Turn bearing over (so large diameter faces out) into hand holding *Marfak Heavy Duty*. Work lubricant into spaces between rollers by kneading with fingers until it comes through on small diameter side.



3. Small diameter side of bearing, showing how *Marfak Heavy Duty* has been worked all the way through spaces between rollers. Repeat working-in operation around bearing until all spaces between rollers are packed.



4. All spaces between rollers have now been packed. Always work in steps, using small amount of *Marfak Heavy Duty* each time. Too much will cover bearing, prevent telling when grease is worked in properly.



5. Hold bearing as shown and spread additional *Marfak Heavy Duty* around the outside. Use enough to cover the tops of rollers with about ⅛-inch of lubricant. Spread evenly and smoothly.



6. Here is a bearing properly packed with *Texaco Marfak Heavy Duty*. Such a bearing will have full protection during the scheduled repacking intervals, plus many thousands of miles of additional bearing life.

TEXACO MARFAK HEAVY DUTY provides fluid lubrication inside wheel bearings but retains its original consistency at the edges. Thus, it seals itself in, seals out dirt and moisture, protects against rust. Safer braking is assured, and bearings last far longer. No seasonal change is required.

In chassis bearings, use *Texaco Marfak.* Even the roughest service won't pound or squeeze it out. It protects against wear and rust for extra hundreds of miles. Chassis parts last longer, maintenance cost is reduced.

For lower *engine* maintenance costs, lubricate with *Texaco D-303 Motor Oil.* It is fully detergent and dispersive, keeps engines clean—thus reduces wear, assures better performance and longer life for all engine parts.

Let a McColl-Frontenac Lubrication Engineer help you reduce your automotive maintenance costs. Call the nearest of the more than 200 McColl-Frontenac Distributing Bulk Stations across Canada—or write McColl-Frontenac Oil Company Limited, Executive Offices, Montreal, Quebec.

MORE THAN 350 MILLION POUNDS OF MARFAK HAVE BEEN SOLD!

McColl-Frontenac Oil Company Limited

Manufacturers and Distributors in Canada of Texaco Petroleum Products

TEXACO Lubricants and Fuels

FOR THE BUS & TRUCK INDUSTRY

TEXACO REG. T.M.

$20,000,000 at Your Service!



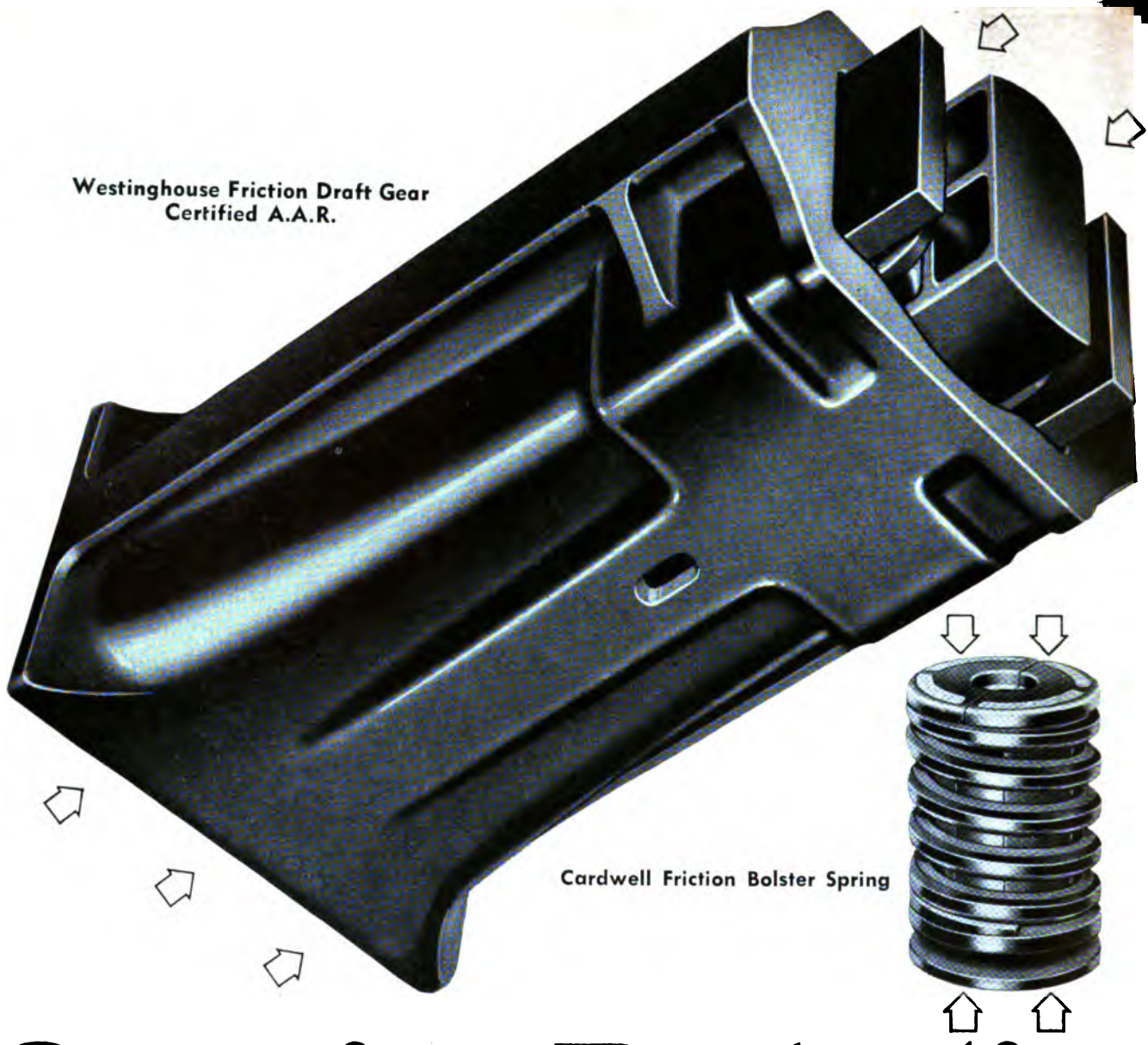
For over a third of a century Dominion Foundries and Steel Limited have been helping Canada to grow — and themselves have grown in the process.

Today with a plant covering 35 acres, and a team of workers 2500 strong, Dominion Foundries & Steel offers you unparalleled service in any problem involving the use of Steel Castings, Electrolytic and Hot-dipped Tinplate, Tin Mill, Black Plate, Blue Plate, Cold Rolled Sheets and Cold Rolled Strip.

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Superior Protection *from* Every Direction

Westinghouse Friction Draft Gears and Cardwell Friction Bolster Springs provide superior protection for Cars and Lading by absorbing horizontal, vertical and lateral shocks; and by checking excessive bouncing, lurching and rocking.

Over 98% of the cars in freight carrying service are A. A. R. construction and over 96% have Friction Draft Gears.

2135R

Manufactured in Canada

Cardwell Westinghouse Co., Chicago
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Measuring all Canada for *You*



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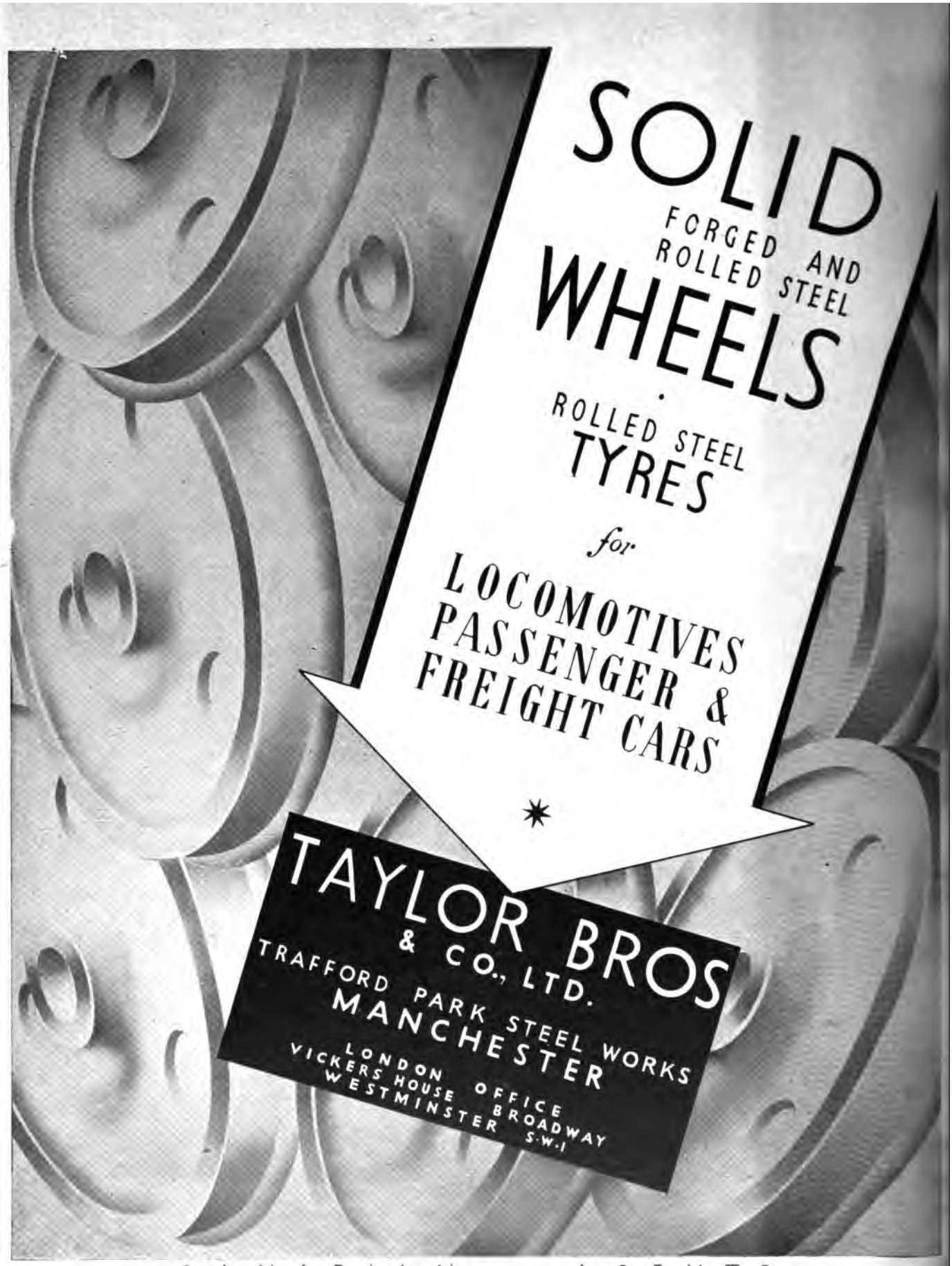
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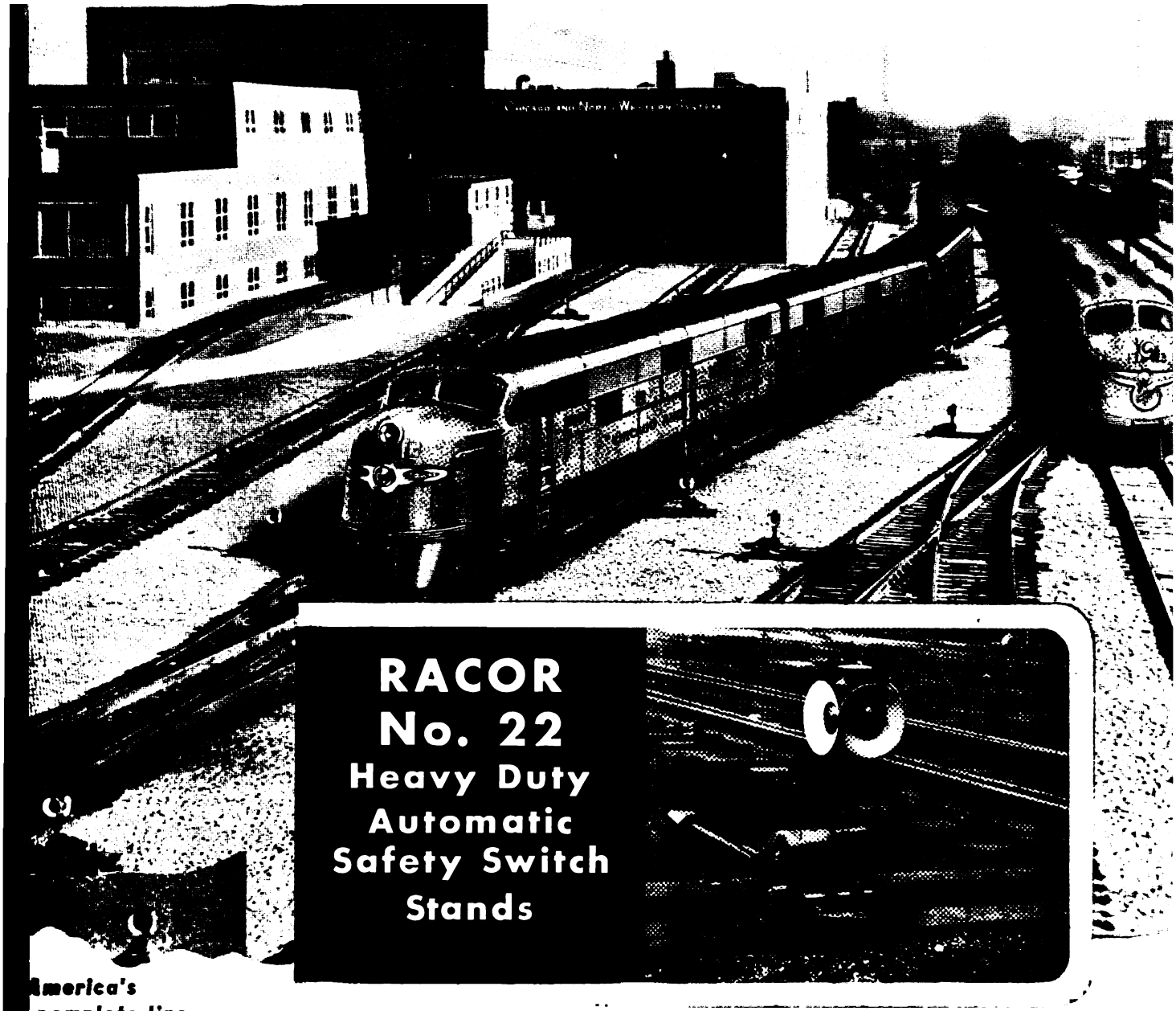
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RACOR No. 22 Heavy Duty Automatic Safety Switch Stands

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complete line
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WITCH RODS

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RACOR

Provide safety and economy on the Chicago and North Western Railway

Racor No. 22 Heavy Duty Automatic Safety Adjustable Switch Stands have been installed with the track facilities serving the North Western's new Chicago Diesel Shop. Recommended for all busy switching turnouts that are frequently run through, these stands operate either manually or automatically. Adjustment to fit slight variations in the throw of switches is provided by a heavy 1¾" diameter adjustable crank eye. Target and lamp rotate with switches whether thrown manually or automatically. During automatic operation the hand lever remains stationary. Write for descriptive literature.

RAMAPO'S GREATER EXPERIENCE AND FACILITIES ARE READY TO SERVE YOU

Brake Shoe
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CANADIAN RAMAPO DIVISIO[illegible]

NIAGARA FALLS ONTARIO

PROPANE, used according to co

These transit properties, among others, have new Propane-powered Twins (or conversions) in operation or on order:

Asbury Rapid Transit System — Los Angeles, Cal.
Chicago Transit Authority — Chicago, Ill.
City of Edmonton Transit System — Edmonton, Alberta
Northern Transit Co. — Fargo, N. D.
Fort Wayne Transit, Inc. — Fort Wayne, Ind.
Galveston Transit Co. — Galveston, Texas
Kansas City Public Service Co. — Kansas City, Mo.
Omaha & Council Bluffs Street Railway Co. — Omaha, Neb.
Philadelphia Transportation Co. — Philadelphia, Pa.
Winnipeg Electric Co. — Winnipeg, Manitoba
Wichita Transportation Corp. — Wichita, Kansas

About Fire Hazards

IT IS emphasized by fuel suppliers and manufacturers alike that LP gas need not be any more fire hazardous than gasoline. In fact, they say that in many cases it is safer. In LP gas installations more sturdy tanks of 3/16 to ¼-in. steel capable of withstanding 250 lb pressure per sq. in. with a safety factor of four are required by Underwriters Safety filling devices, excess flow valves, safety valves, etc, must be approved. Thus tanks will withstand considerably more impact, and shut off valves will stop the escape of gas when lines break. All points in fuel lines are welded and flanged together then threaded. Lines are rigidly anchored and encased in a loom, thus reducing tendency toward damage.

In the event of fire and broken tanks, LP gas will diffuse into the atmosphere while gasoline spreads over the surrounding area. Explosion hazards are present with either type fuel, of course, but on the whole propane properly installed offers no additional problems. For these reasons oil companies consider the hazards in case of collisions to be less with LP gas than with gasoline. It should be emphasized here that Pamphlet 58 of the National Board of Fire Underwriters covers the entire set of rules for handling and storage, and if these are adhered to there is absolutely no more danger from using LP gas than there is in gasoline.

The insurance of vehicles operating on volatile fuels is an index of the relative hazard. Because [illegible]

QUESTION NO. 3—Are special safety precautions necessary either in handling liquefied petroleum or using it as a motor fuel?

The only safety precautions necessary for storing or handling liquefied petroleum gas are those which common sense would dictate. Since the fuel is stored in pressure equipment under its own vapor pressure, the design of storage and dispensing equipment is rigidly controlled by laws and specifications drawn up by the local State and Federal authorities and generally are those specified in Pamphlet 58 of the National Board of Fire Underwriters. If the equipment used is of standard design and reasonable precautions are taken to prevent leaks, the storage and handling of LP-gas is considerably safer than that gasoline.

BUS TRANSPORTATION

No Insurance Discrimination

"A propane fire is much less dangerous and easier to control than a gasoline or diesel fuel fire. In case of propane fire, it is usually over with one flash explosion which will have no greater force or damaging effect than a flash explosion with either gasoline or diesel fuel. Thereafter, it is confined to a torch fire as against a gasoline or diesel fire which is a running fire that usually envelops the entire vehicle in case of a ruptured tank or broken line."

MASS TRANSPORTATION

s the SAFEST motor fuel!

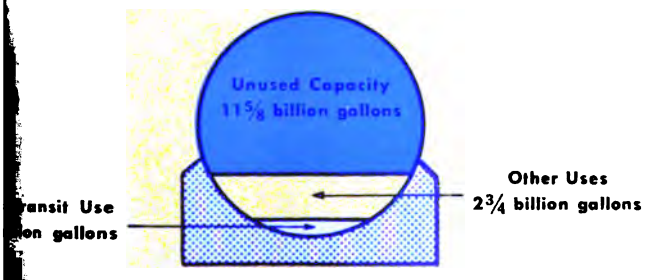
HREE months ago Twin Coach announced the *first complete line* of modern motor coaches to operate 125 octane Propane. These were produced as the lt of research directed since 1935 by L. J. Fageol, n Coach president.

Immediately Propane became the biggest news in ransit industry. Interest, and conversion to Propane, ncreased steadily as more and more properties have ed Twin Coach demonstrations and seen convincing f of Propane advantages:

ropane offers today's lowest cost fuel per mile. Sav- gs up to 2 cents per mile are commonly reported — ade possible by the Fageol Twin Coach engine oper- rating at 10 to 1 compression ratio. *The Fageol ngine is the only motor coach engine expressly designed r high octane fuel and insures the procurement of aximum miles per gallon.*

Propane cuts maintenance expense to a new minimum.

Propane supply far exceeds foreseeable demand. If the ransit industry were to immediately operate 100% n Propane, there would be no appreciable effect on ither Propane supply or price structure. Sketch elow shows the huge 11⅝ billion gallon annual Propane surplus. This remains after the potential 100% transit demand of 625 million gallons is added o present 2¾ billion gallon consumption.



15 BILLION GALLON ANNUAL PROPANE CAPACITY

Twin Coach now recommends two practical courses of action:

1 Immediate conversion of present gasoline buses to Propane.

2 Purchase of new Propane-powered Twin Coaches when fleet additions are made.

L. J. Fageol

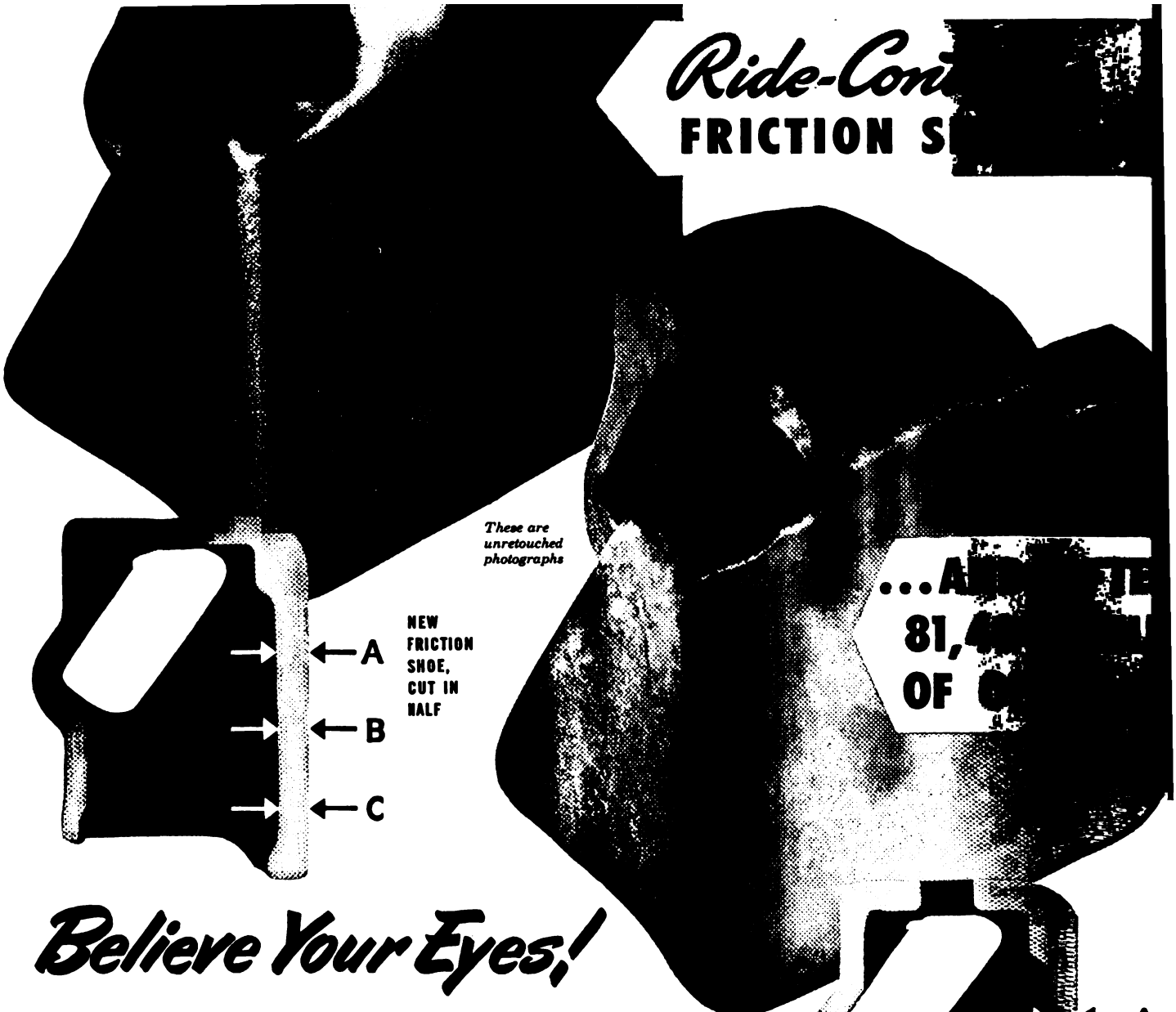


Propane-powered Twins are always available for demonstration on your property.

VIN COACH OF CANADA, LIMITED

200 MADISON AVENUE • TORONTO 5, ONTARIO

FAGEOL Twin Coach CANADA



Believe Your Eyes!

If you think friction shoes *must* wear themselves out in cushioning truck-spring movement, do this: inspect *your own* A.S.F. Ride-Control Trucks, and check on mileages. *Your* performance picture should be very much like that shown here.

At right, above, is a Ride-Control Friction Shoe selected at random from a truck-set removed for inspection after *two years* of 40-ton brine refrigerator car service. With 81,404 easy-riding miles to its credit, average friction-surface wear is only about 1/32", and this is also true for the *other three shoes.*

Ride-Control Friction Shoes *don't* break—wear *uniformly*—virtually *never* wear out. They're made of tough cast steel, deep induction-hardened for *long-lasting* high wear value. Thus, while mileage mounts on the thousands of cars that are rolling on Ride-Control Trucks, users keep getting "like-new" performance while *saving* real maintenance money.

THICKNESSES
Before and After

Three measurements were taken across the face at each of the three points indicated. Figures shown are average thicknesses along each line of measurement.

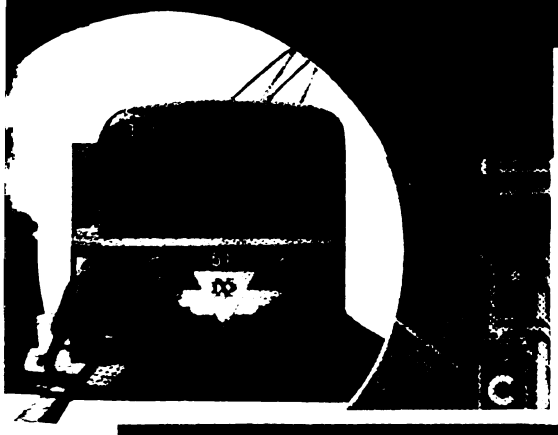
	NEW SHOE	OLD SHOE	WEAR
Point "A"	.5625"	.5156"	.0469"
Point "B"	.5563"	.5219"	.0344"
Point "C"	.5525"	.5303"	.0222"
Average	.5571"	.5226"	.0345"

Average wear on shoe-face, after 81,404 miles of operation: slightly over 1/32".

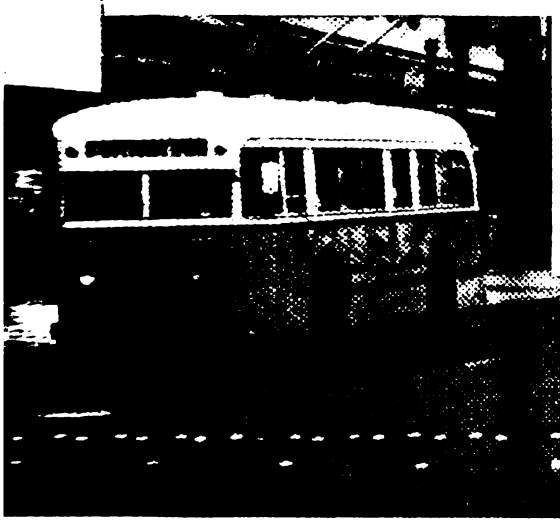
A-S-F Ride-Control® TRUCK

LONG SPRING TRAVEL • CONSTANT FRICTION CONTROL

AMERICAN STEEL FOUNDRIES







Win Battle Against Traffic Congestion

To many harassed city planning engineers, downtown Dayton would look very much like paradise. Stand at the corner of Main and Third Streets during the rush hour and it's hard to believe you're in the center of a metropolitan area of almost 400,000 population . . . traffic is so quiet and orderly.

As you look down either street, in either direction, you see trolley coaches move into the curb, load and then quickly pull back into traffic which flows by in a steady stream . . . moving at an average rate up to 16.5 miles per hour, even during peak periods.

Dayton's early choice of the trolley coach as its basic transportation vehicle stands out as an important reason for the city's near-freedom from traffic congestion. Trolley coaches first came to this Ohio city in 1933. Now almost 200 of these quiet, electric vehicles travel the city streets.

Three transit companies serve Dayton—The City Railway Company, The Oakwood Street Railway Company, and The Dayton-Xenia Railway Company. All chose the trolley coach, a happy choice both for them and for the riding public . . . because THEY ALL LIKE TROLLEY COACHES IN DAYTON.

4006-T



Canadian Ohio Brass

TROLLEY COACH AND STREETCAR LINE MATERIAL AND CAR EQUIPMENT

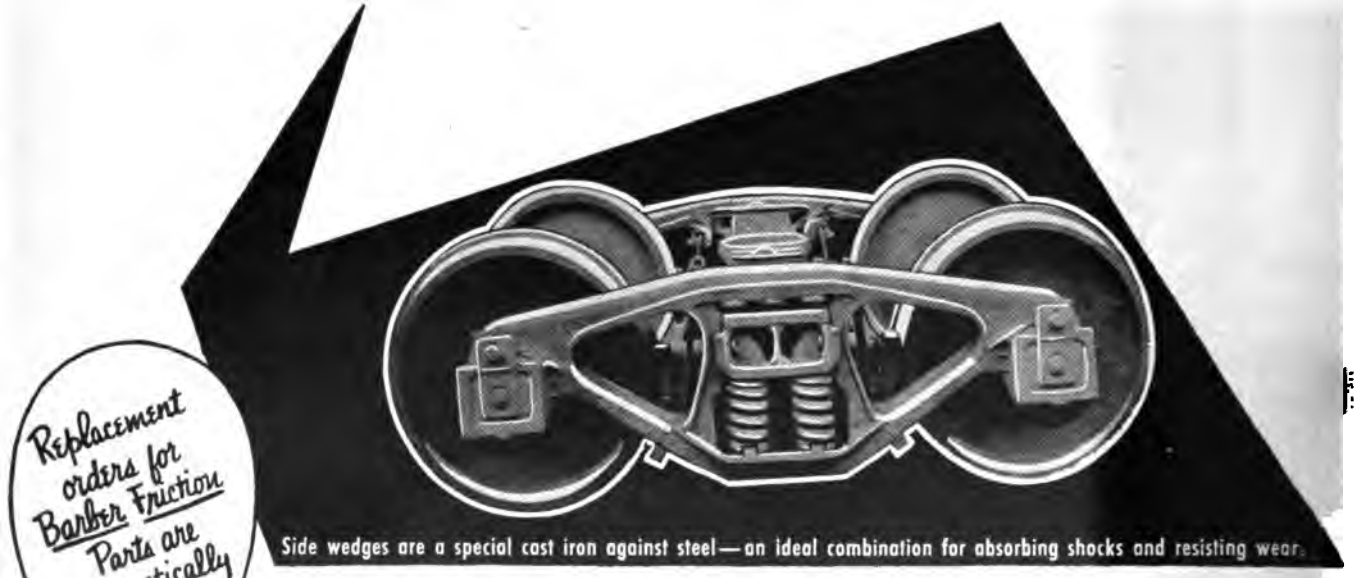
here are the REASONS for the Surprisingly Long Life of BARBER STABILIZED TRUCKS

1 **Variable friction for variable loads**

2 **Friction casting of alloy iron with large friction bearing surface (35 sq. in.)**

3 **Spring-steel wear plate, securely welded or bolted to the column**

4 **Friction-casting supporting side spring has minimum 3/4" initial compression**



Side wedges are a special cast iron against steel—an ideal combination for absorbing shocks and resisting wear.

Replacement orders for Barber Friction Parts are practically Zero!

Over 210,000 Barber Stabilized Trucks have been ordered

3010 CR

STANDARD CAR TRUCK COMPANY

332 SOUTH MICHIGAN AVENUE, CHICAGO

Barber Lateral Motion Device Manufactured and Sold in Canada by
CANADIAN APPLIANCE CO., LTD., Montreal

Barber Stabilized Truck Parts Manufactured and Sold in Canada by
CONSOLIDATED EQUIPMENT CO., LTD., Montreal



RAILWAY MATERIALS

From the Steel Peech & Tozer forges come every variety of railway axles — straight axles, locomotive crank axles, solid forged and built-up in all web types, supplied to railways in every part of the world. Finished sets of wheels and axles of high accuracy are produced by Owen & Dyson Ltd., an associate company.

In the tyre mills all sizes of tyre are rolled from 12 inches to the largest locomotive types. A speciality is the production of unusually hard-wearing and tough tyres, and specially heat-treated tyres for severe conditions of service and variations of climate and temperature. Solid wheels and disc wheel centres are also produced.

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STEEL, PEECH & TOZER • THE ICKLES • SHEFFIELD

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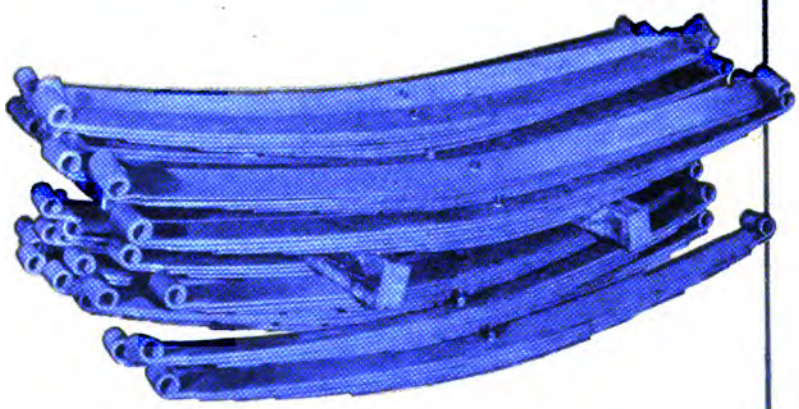
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SPRINGS





"8660" Nickel Alloy Steel

Both leaf type and hot coiled springs for heavy duty work are better when made from "8660" nickel-chromium-molybdenum alloy steel. High elastic properties, resistance to permanent set, resistance to shock at both normal and sub-zero temperatures, through hardening characteristics, good fatigue strength, less [illegible]y to decarburization, and [illegible] cleanliness are some [illegible] qualities of "8660" [illegible]to be used for [illegible]n, and similar heavy d[illegible]ons, it will pay you to inv[illegible]pe "8660" Nickel Alloy St[illegible] for a copy of "Nickel [illegible] in Railway Equip[illegible]

EMBLEM OF INCO SERVICE
TRADE MARK

THE INTERNATIONAL NICKEL COMPANY OF CANADA, LIMITED
25 KING ST. WEST, TORONTO







LOW COST *automatic steering for fishing craft*

● By using the SPERRY HYDRAULIC RAM to power the SPERRY MAGNETIC COMPASS PILOT ... fishing boats of limited power can get the advantages of *automatic steering* at relatively low installation cost—in most cases the equipment can be attached to the existing steering system. This hydraulic power unit meets steering requirements of vessels approximately 40 to 125 feet long.

● Below are some of the features that enable the Hydraulic Ram to operate economically and dependably...

● ... Operation possible from either motor drive, or belt drive direct from main engine without drawing on ship's electrical supply. *Hydraulic pressure* is adjustable over a wide range to meet *rudder torque requirements* of various types of craft. Action of the hydraulic system is fast and positive. The 2-unit equipment—*hydraulic ram* and *power pack*—is compact, rugged, powerful.

SHORTEST COURSE TO THE RICHEST HAULS

● Besides the savings made possible by the Sperry Hydraulic Ram, the small fishing craft gets valuable economies from *automatic straight steering* itself. By steering the shortest course automatically, the Sperry Magnetic Compass Pilot saves time en route, assures more time on the fishing grounds.

● Portable remote controller . . . permitting full rudder control away from wheel . . . leaves captain or mate free to supervise fishing operations while the run is on.

BACKED BY SPERRY SERVICE

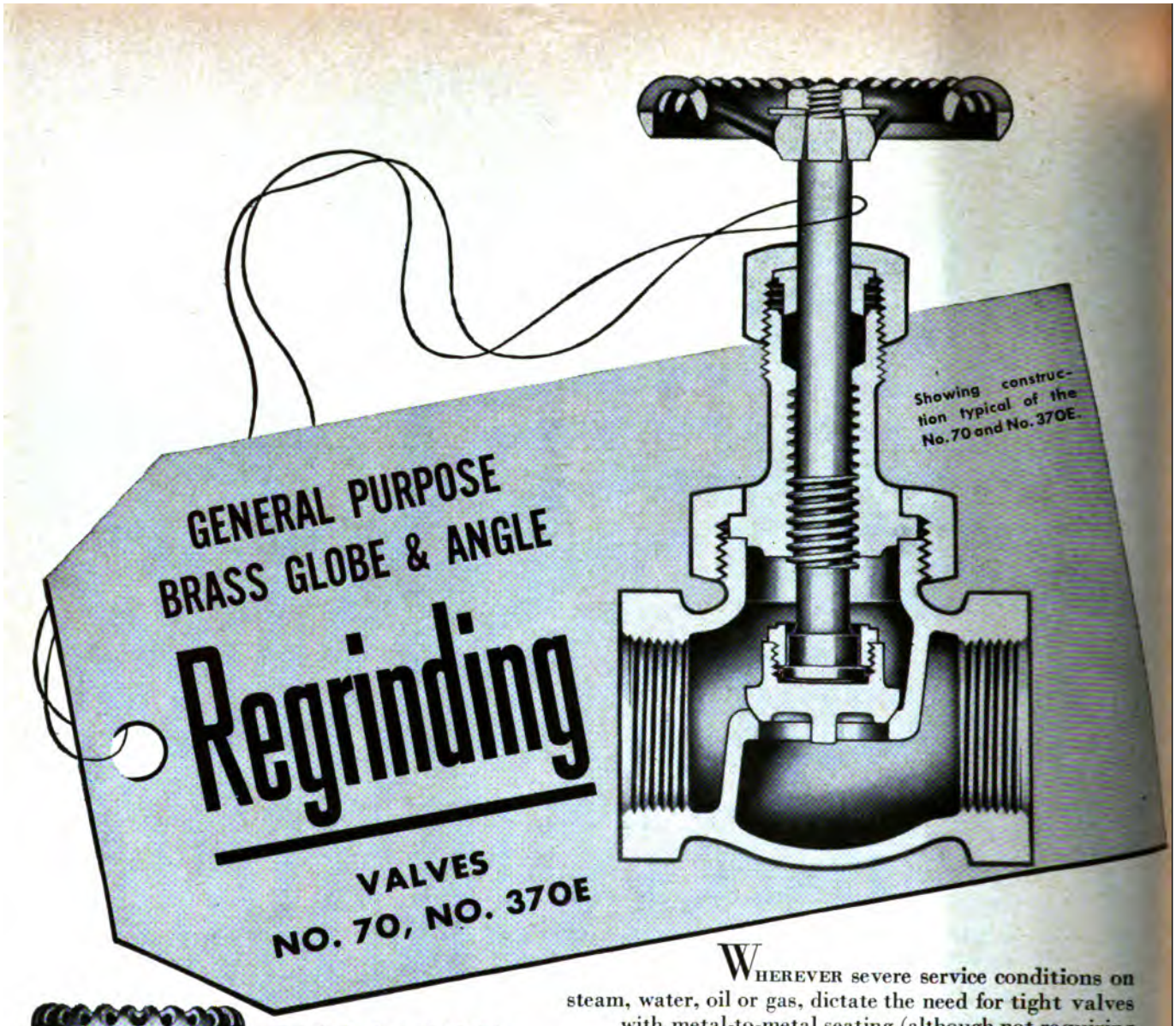
● The Hydraulic Ram and Magnetic Compass Pilot are both backed by Sperry's service organization. Our nearest district office will be glad to give you additional information.



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DIVISION OF THE SPERRY CORPORATION, GREAT NECK, NEW YORK ● CLEVELAND • NEW ORLEANS • NEW YORK • LOS ANGELES • SAN FRANCISCO • SEATTLE

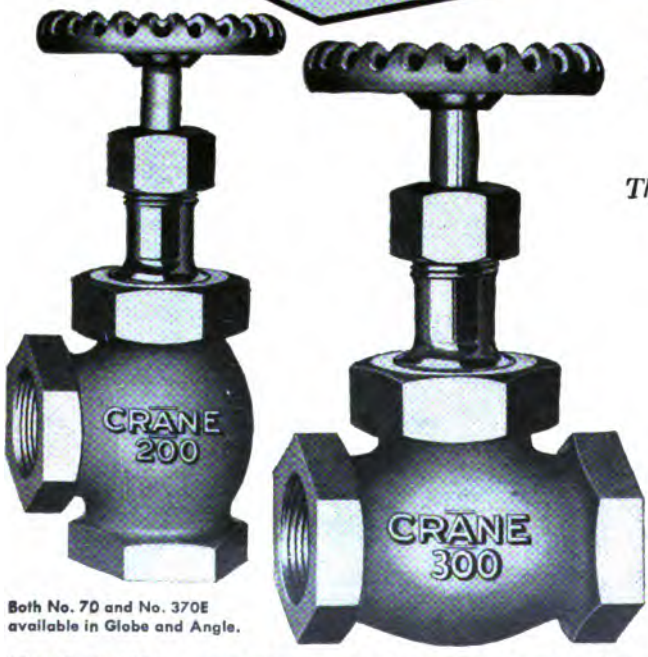
THE ONTARIO HUGHES OWENS CO., LIMITED, OTTAWA—AGENTS IN CANADA FOR SPERRY MARINE AND AERONAUTICAL EQUIPMENT



GENERAL PURPOSE BRASS GLOBE & ANGLE

Regrinding

VALVES NO. 70, NO. 370E



Both No. 70 and No. 370E available in Globe and Angle.

WHEREVER severe service conditions on steam, water, oil or gas, dictate the need for tight valves with metal-to-metal seating (although not requiring the more specialized plug-type disc used on exceptionally severe throttling, blow-down and similar service)—the Crane Nos. 70 and 370E "regrinding" valves are in popular demand, particularly in the marine field.

They can be reground without removing the body from the line. Union bonnet ring reinforces the bonnet joint, facilitates dismantling and reassembling. When a valve is being reground, the ring centres and guides the valve trim.

Working Pressures (Screwed Valves):

No. 70—200 lbs. steam at 500°F.; 400 lbs. W.O.G., non-shock. No. 370E—300 lbs. steam at 550°F.; 600 lbs. W.O.G., non-shock.

The disc in sizes $\frac{1}{8}$" to $\frac{1}{2}$" is integral with the stem. In larger sizes, the disc swivels on the stem, as shown in the cross-section.

Stuffing boxes are deep, equipped with a gland, and filled with high grade packing. These valves, when wide open, can be repacked under pressure.

CRANE LIMITED: GENERAL OFFICE: 1170 BEAVER HALL SQUARE, MONTREAL • 18 BRANCHES IN 10 CANADIAN PROVINCES

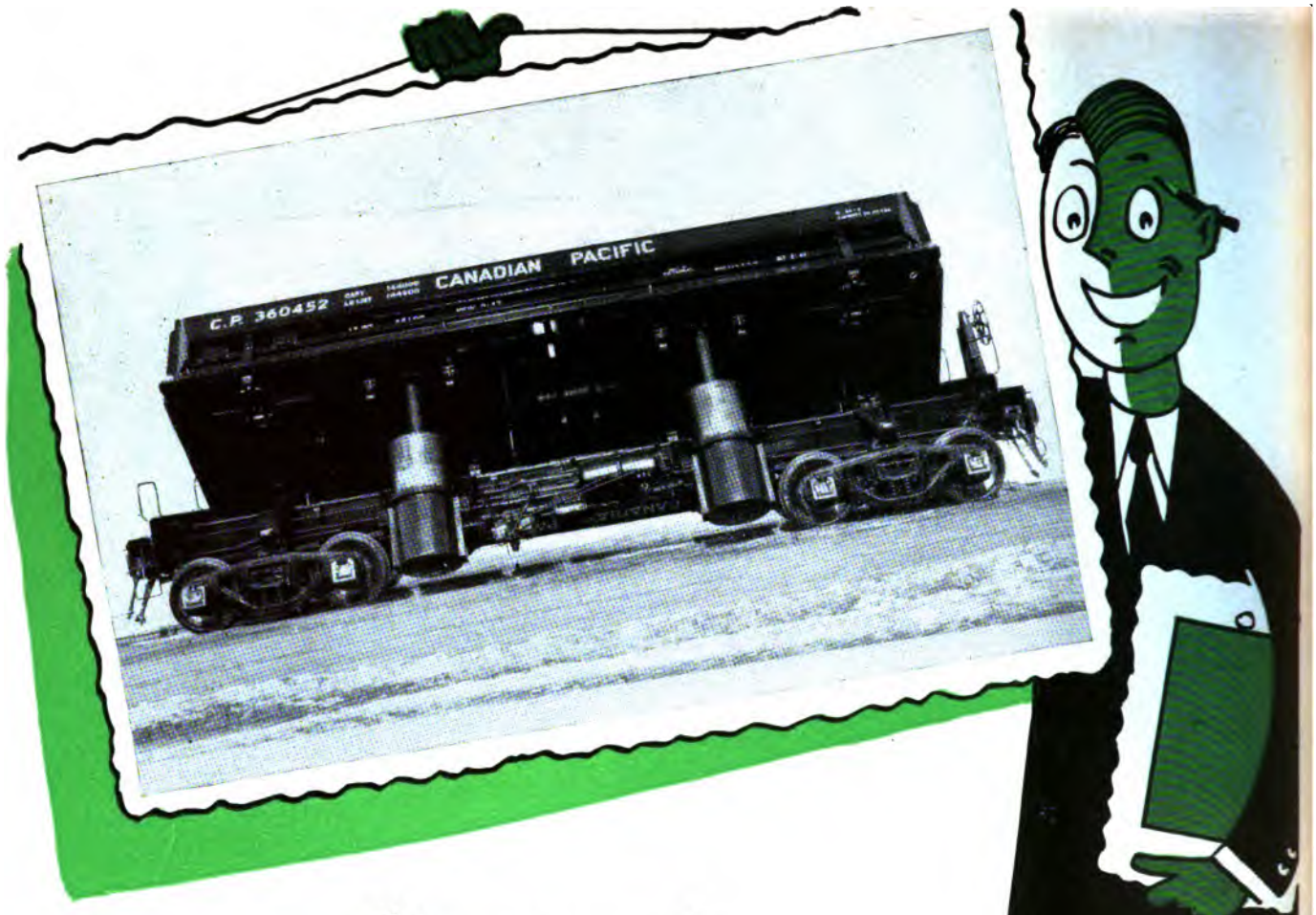
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NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS and PLUMBING AND HEATING CONTRACTORS


THE WORLD-WIDE REPUTATION OF
BETHLEHEM STEEL
Results from One-Control Production
Although Bethlehem has steel-producing units on both the east and west coasts of the United States of America, it is a completely integrated organization. It maintains constant, centralized control over all phases of production from mining the ore to shipping the finished products. From this expert supervision, high technical skill, and up-to-the-minute methods, results the world-wide reputation of Bethlehem steels for quality, uniformity and dependability.
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BETHLEHEM STEEL EXPORT CORPORATION
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404C



You can cut steel plant refuse disposal costs up to 40%

The new Magor Automatic Air Dump Cars are built especially for refuse disposal service. They are capable of taking rough treatment year after year with a minimum of maintenance expense. The cars are designed to withstand abuse, shock and strain; all parts are liberally proportioned; high strength-tough steel is used extensively in structural members and wearing parts requiring added strength. A ventilated double plate flooring dissipates, to a great extent, the heat of lading. The dumping mechanism is fool-proof . . . If you've been overlooking high refuse disposal costs caused by to-day's high labor rates and inefficient or obsolete equipment — investigate this Dump Car. You can cut your costs up to 40%.

NATIONAL STEEL CAR

HEAD OFFICE: HAMILTON, ONTARIO *Corporation Limited* SALES OFFICE: MONTREAL, QUEBEC

BUILDERS OF TRANSPORT FOR CANADA

Five Points
FOR CHILLED TREAD WHEELS

ROTUNDITY test



CHILLED TREAD WHEELS are tested to .025 inches for rotundity. And note, the A.A.R. limits are .031 . . . This exceeding carefulness in rotundity limits is paralleled in all other phases of railway wheel production. The "five points for chilled wheels" (noted at right) are the standards through which we have won our reputation for railway wheels.





Chilled Tread Wheels are Manufactured in Canada by

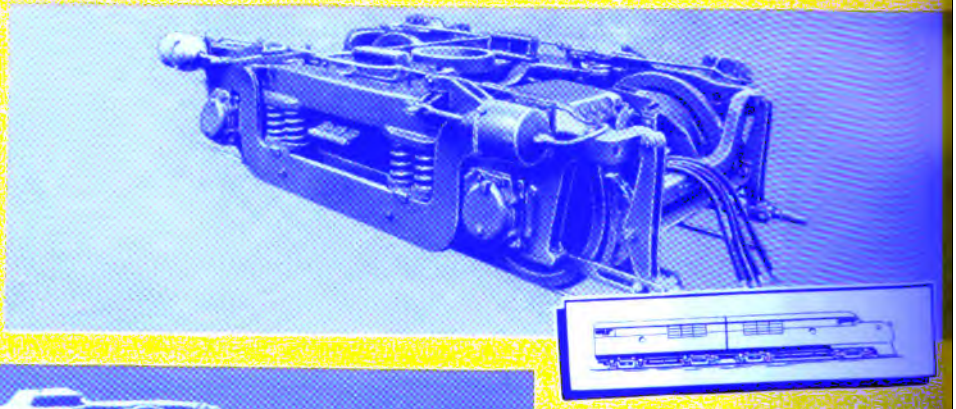
CANADA IRON FOUNDRIES LIMITED
CANADIAN CAR & FOUNDRY CO. LIMITED
DOMINION WHEEL & FOUNDRIES LIMITED

Commonwealth TRUCKS

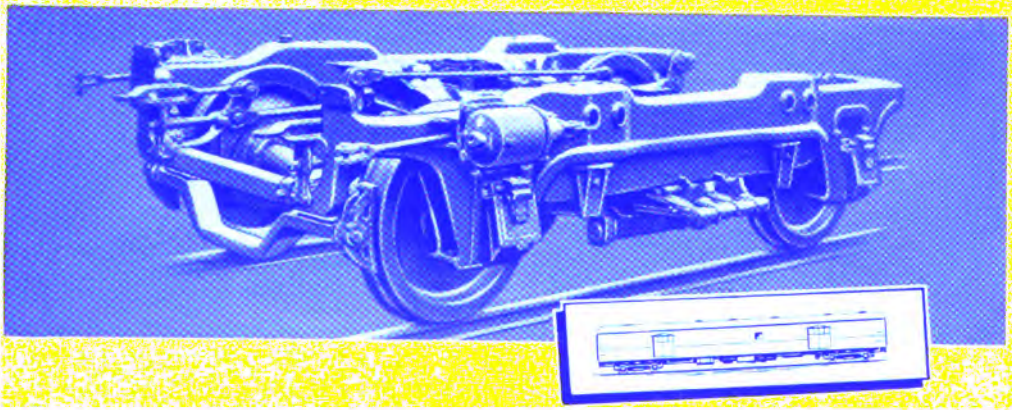
combine proved design and Canadian know-how in trucks for both diesel locomotive and passenger cars



6 wheel truck for Canadian N
Railways passenger cars.



4 wheel truck for 1500 h.p. diesel electric road switcher locomotives.



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LIMITED

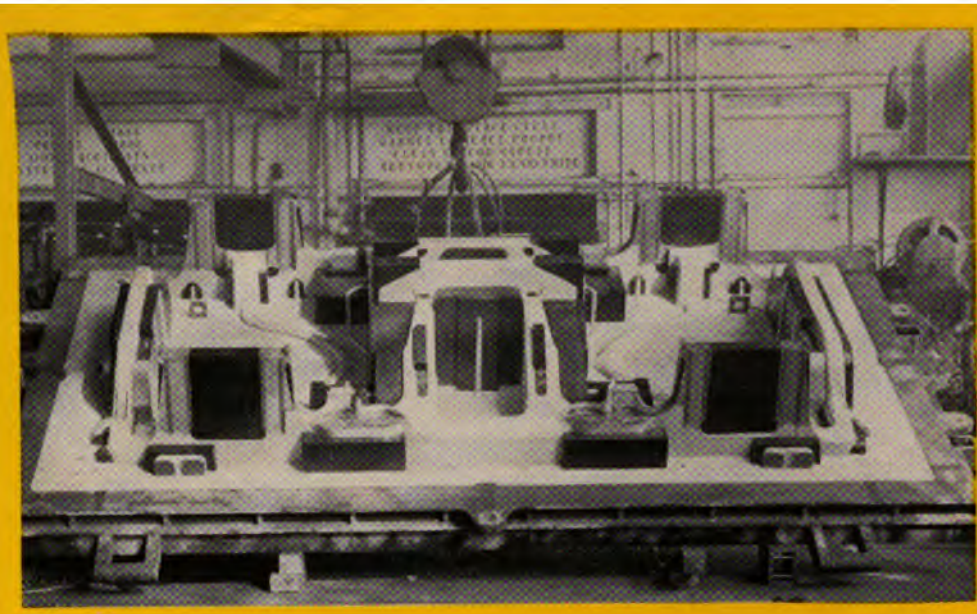
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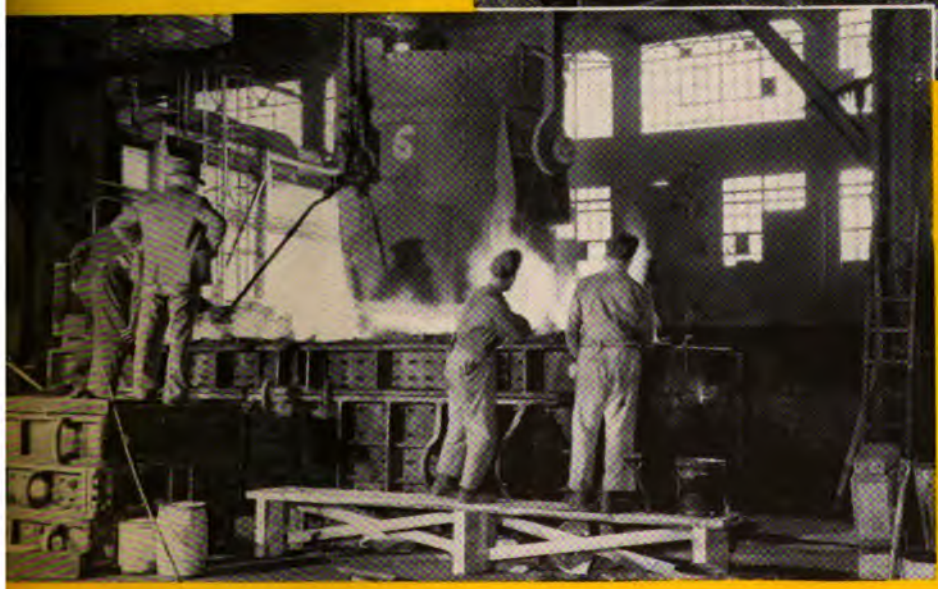
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anadian Car &
undry Company
Limited

in their
eel Foundry
at
ngue Pointe
MONTREAL







The above pictures, taken in the Steel Foundry at Longue Pointe show:

TOP
Part of the pattern used in making the moulds in which the frames for Commonwealth Trucks for diesel locomotives are cast.

CENTER
Half of a mould ready to be closed.

BOTTOM
Pouring the first truck frame ever made in Canada.

Canada's Largest
Manufacturers of Railway Rolling Stock
and Equipment

Mr. Bussey and the five tests



"We rarely have a defective wheel from you," remarked Mr. Bussey. "Is that just luck?"

"We'll show you the answer," we replied. . .

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The five tests Mr. Bussey saw being carried out are listed below. In this, as in all phases of our production, no effort is spared to make blueprints come true.

1—Rotundity tests to .025″ (Standard A.A.A. is .031″).

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3—Pyrometric check for processing temperatures and chemical analysis for each heat.

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400 MADISON AVENUE

CHICAGO 11, ILL.
WRIGLEY BUILDING

Date Apr[illegible] 27, 1950

CHEMICAL ANALYSIS

Results expressed in [illegible] parts per million

SAMPLE MARKED	Boiler Make-Up (Raw)	Conden-sate	Boiler Feed	Boiler #5	Boiler #8
ANALYSIS NUMBER 500410					
Total Dissolved Solids	1002	6	612	15980	13992
Suspended Solids	Trace	0	8	1052	332
Carbonate Hardness ($CaCO_3$)					
Non Carbonate Hardness ($CaCO_3$)					
Total Hardness ($CaCO_3$)	36	0	20	0	0
Calcium ($CaCO_3$)	24				
Magnesium ($CaCO_3$)	12				
Sodium (Na)					
Silica (SiO_2)	13		7	88	88
"P" Alkalinity ($CaCO_3$)	0	0	8	1520	1410
"M" Alkalinity ($CaCO_3$)	168	4	112	2160	1910
"OH" Alkalinity ($CaCO_3$)			0	1030	1020
Chlorides (Cl)	420	0	256	5900	5240
Sulfate (SO_4)	27	0	12	224	212
Phosphate (PO_4)		0	0	60	55
Nitrate (NO_3)					

Caustic embrittlement observations have been made at this plant for more than ten years with continual negative findings.

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Concentrol is available in several different formulations, some of which contain selected tannins, which condition boiler water sludge and suspended matter, maintaining them in a highly fluid, non-adherent form. Concentrol may be safely fed through feedlines and when fed continuously will help inhibit feedline deposits.

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B.A. 156

Quality

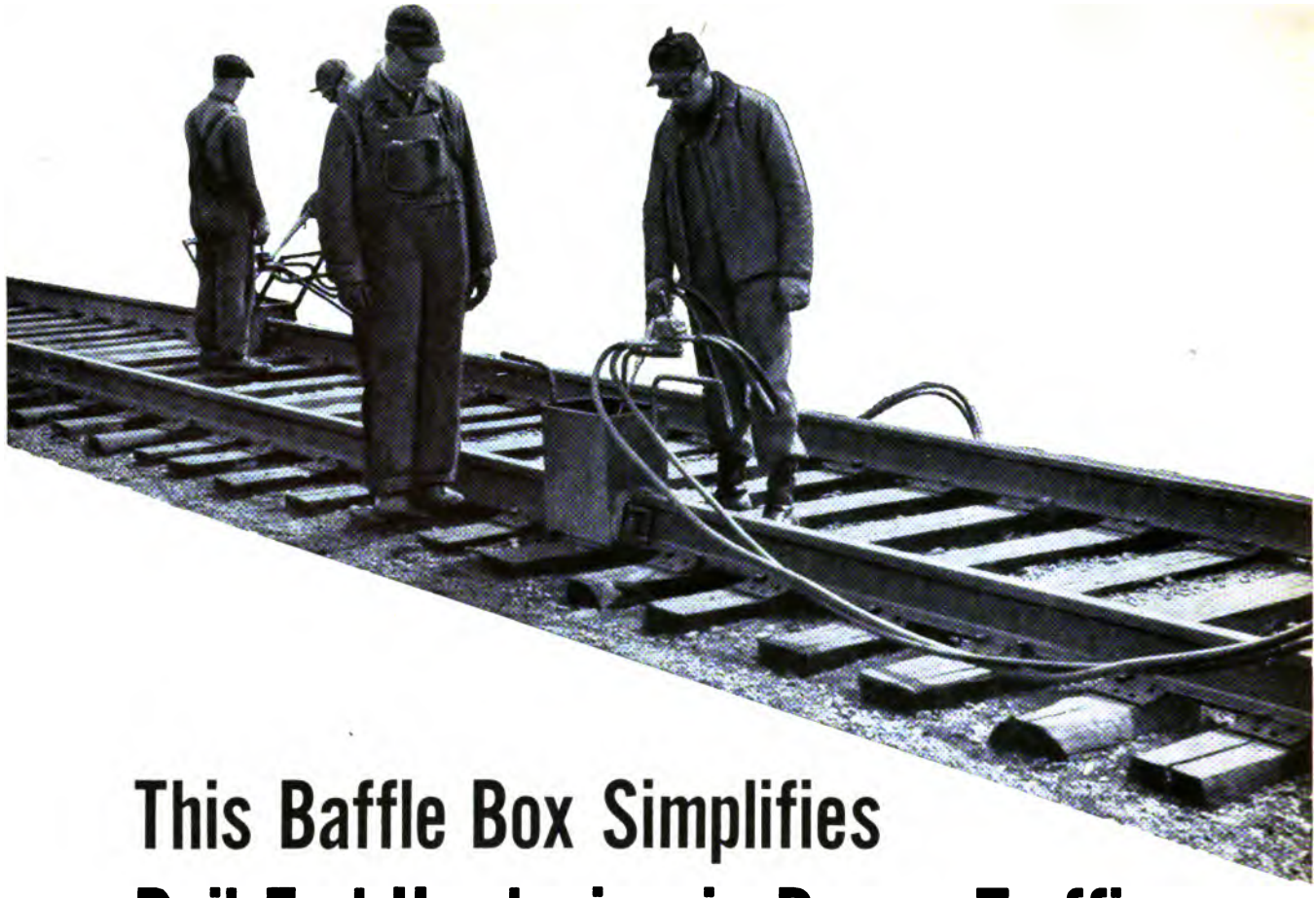


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With the baffle box in place, both rails at one joint are hardened simultaneously.

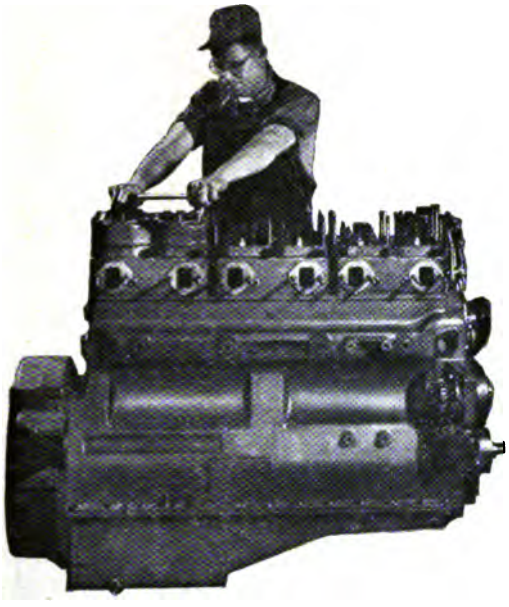
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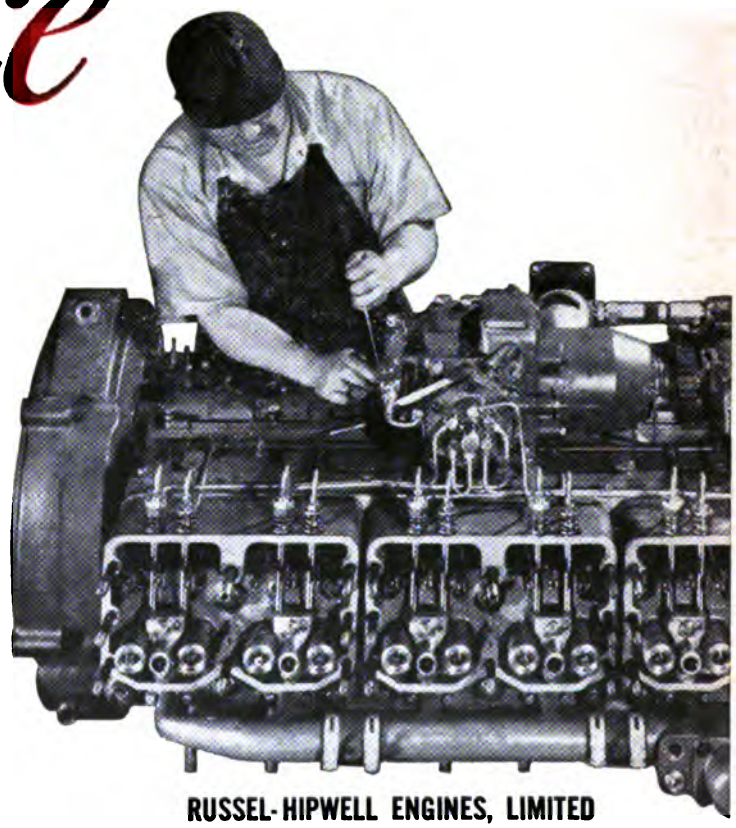
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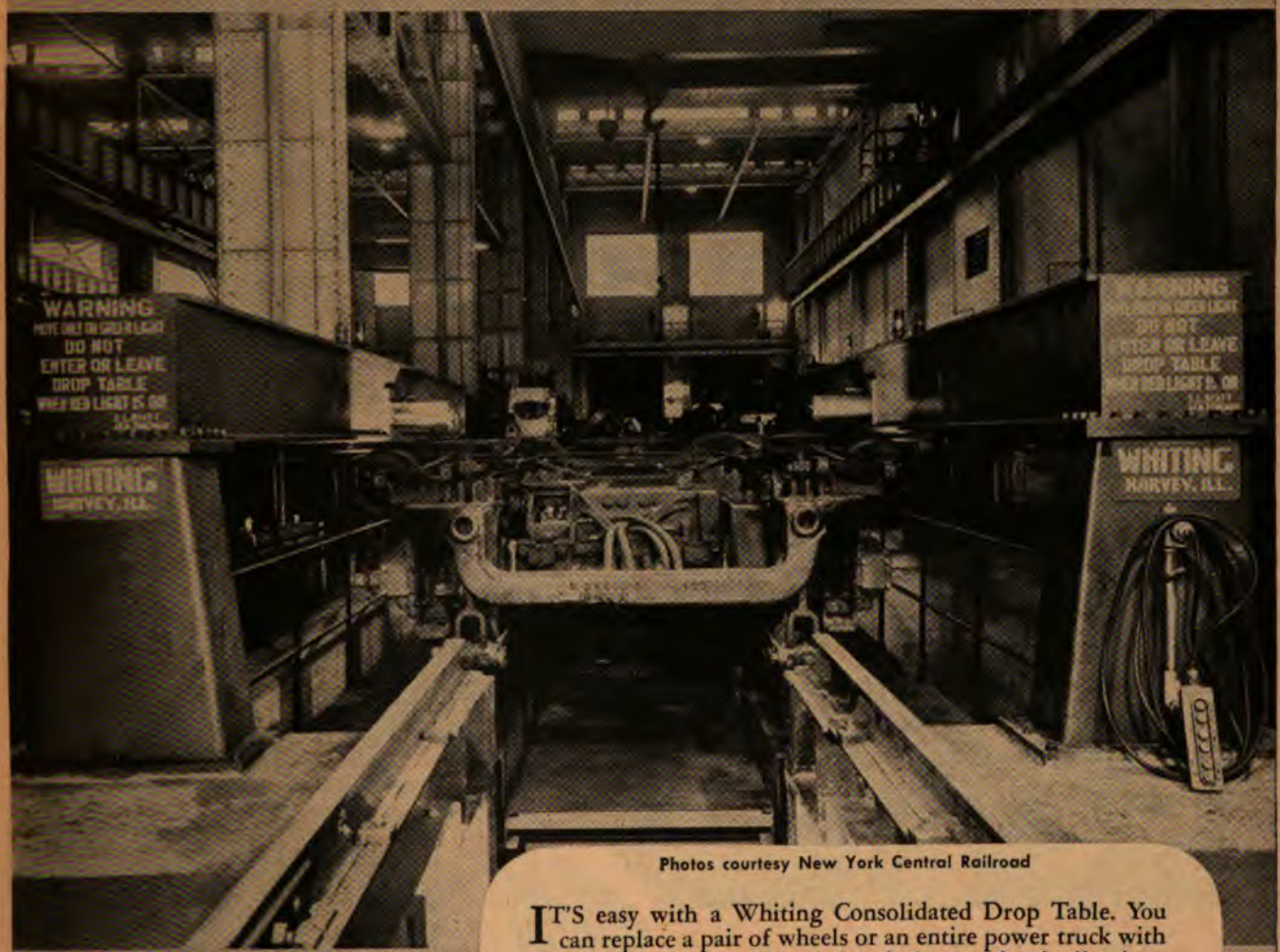
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Photos courtesy New York Central Railroad



Whiting Consolidated Drop Table carrying 6-wheel Diesel truck, partially dropped.

IT'S easy with a Whiting Consolidated Drop Table. You can replace a pair of wheels or an entire power truck with stand-by units on a Diesel-electric locomotive in jig time. Merely drop the old unit with a Whiting Consolidated Drop Table and move to nearby service track. Roll on a stand-by unit and move the Drop Table back to locomotive. Raise table and connect new truck. No other method can service a Diesel-electric locomotive with wheels or power trucks so quickly.

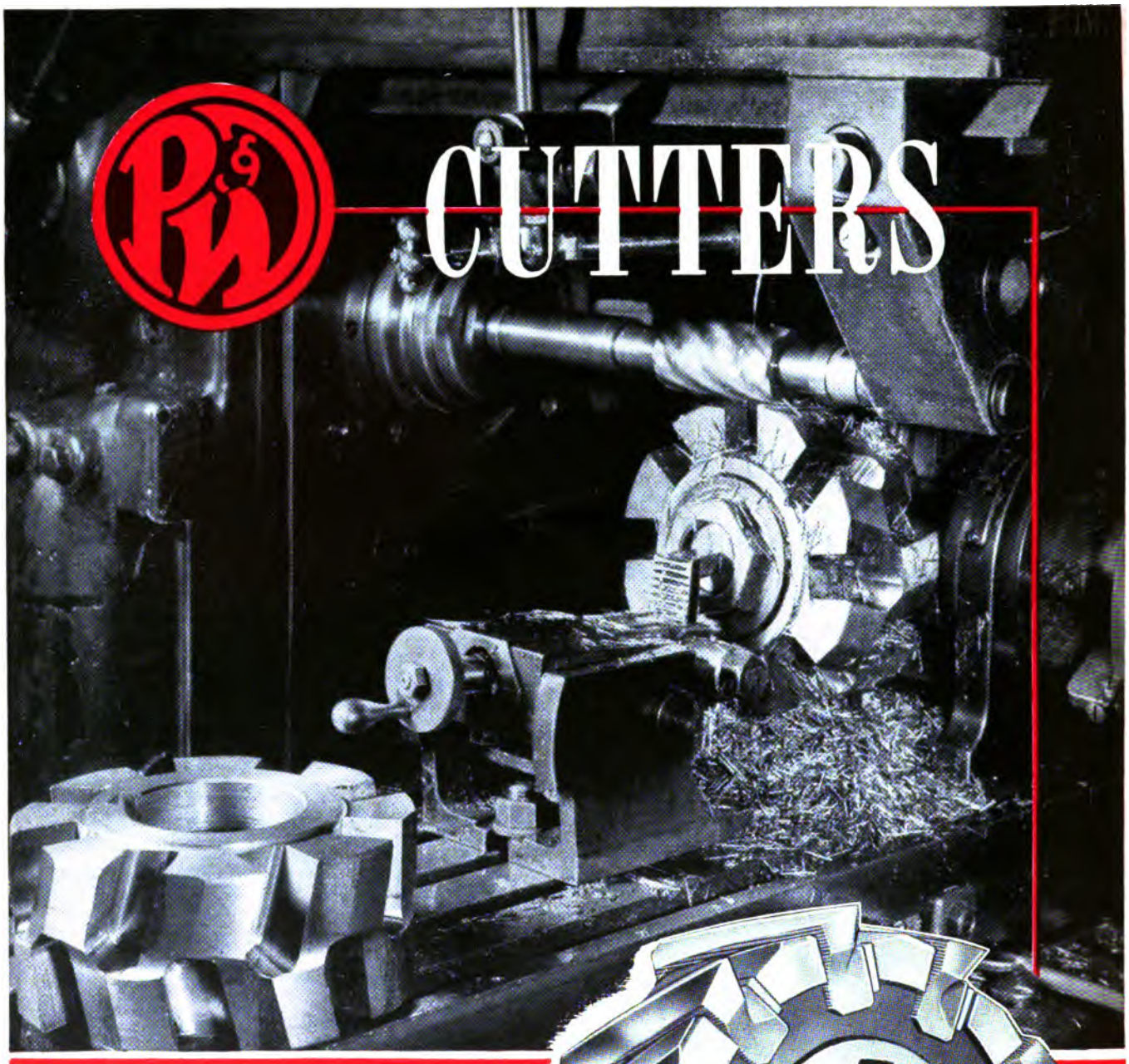
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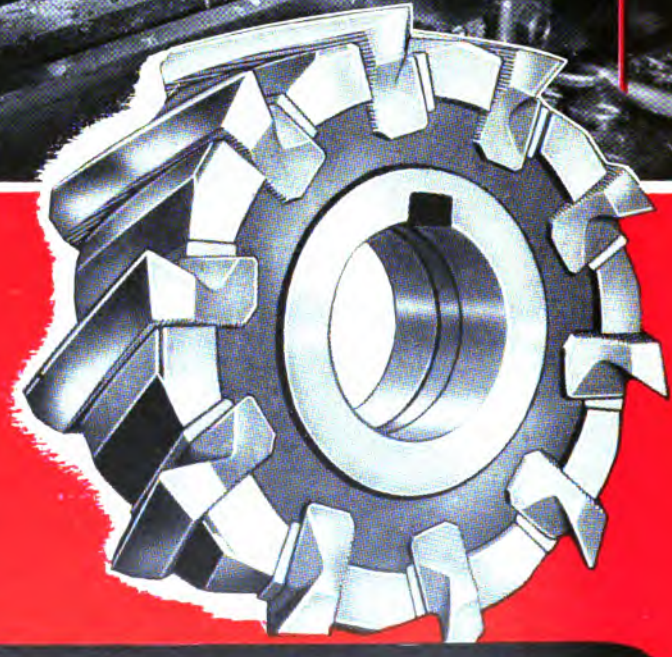
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Canadian Transportation

The C.P.R. Hump Retarder Yard Near Montreal

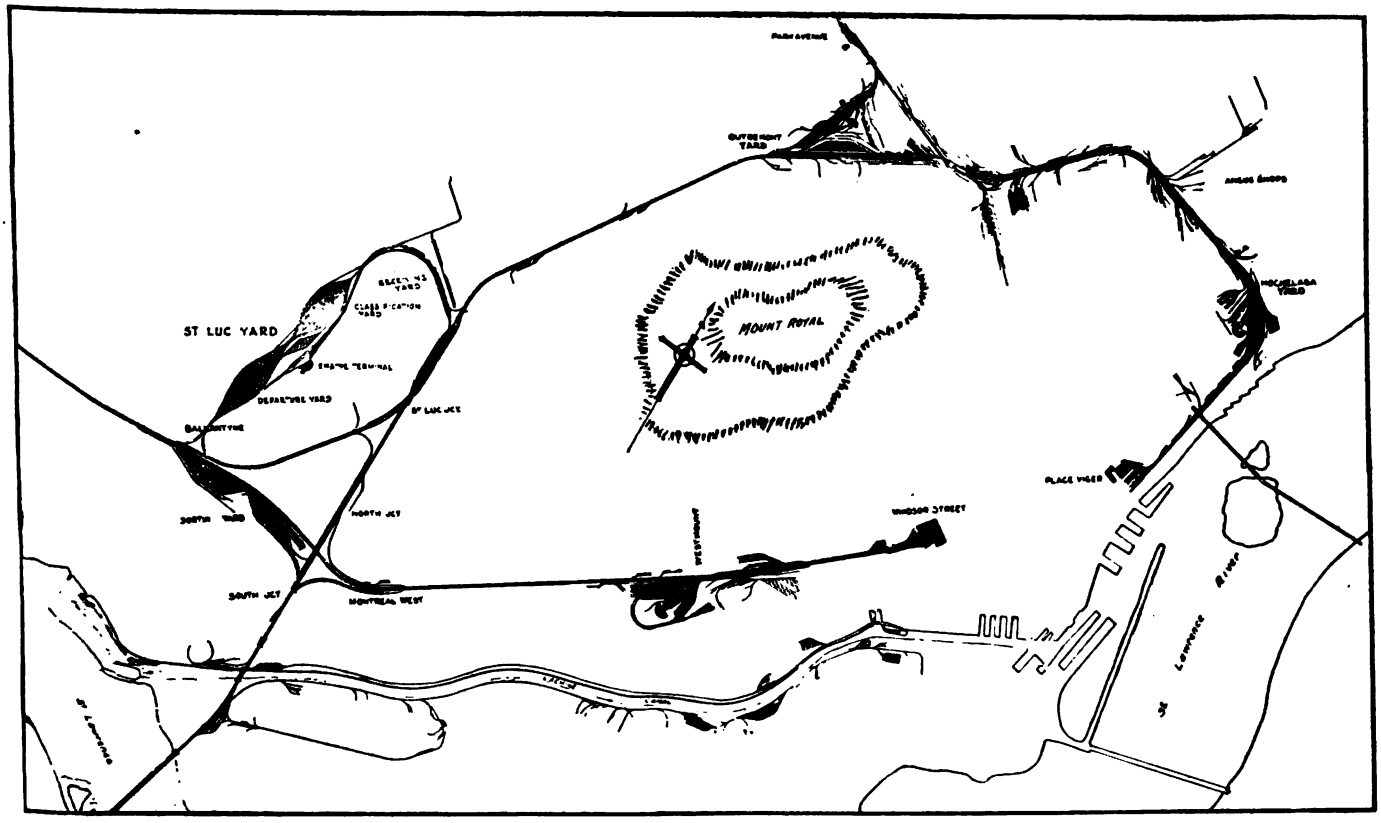
The Canadian Pacific Ry. St. Luc Yard, just outside of Montreal West, is the first retarder hump yard in Canada and embodies features new to North American railroading. On a site of over 682 acres, it is over 3½ miles long and has more than 75 miles of track. Operated with all-electric retarders and with a hump with under track inspection pit and automatic scale, it will easily handle up to 3,000 cars per day, and the layout is complete with 37-stall engine house with direct steaming facilities, machine shop with 3-track drop table, large capacity steam power plant, 400-ton coaling plant, cinder plant, washing platform, stores building, bunkhouse, car repair building, general yard office, retarder control tower, hump office, signal tower, car repair tracks and complete signals and communication equipment, water and sewage services, floodlighting, telephone exchange and roadway.

THIS MONTH (July) the Canadian Pacific Railway Company is opening for service a new railway freight terminal at Montreal. Constituting the first retarder hump yard in Canada the new terminal will embody a number of features unique to North American practice. Culminating two and one half years of construction work, it will provide better and quicker handling for freight moving to, from and through Montreal and effect economies in operation as well.

The need for improved and enlarged facilities springs from the growth in traffic over the past ten years. The traffic handling capacity of any railway is determined, not only by its ability to move trains from terminal to terminal, but also by the ability of those terminals to receive, sort and dispatch trains. Under the peak volumes of World War II congestion occured at many terminals, but at Montreal, with its concentration of population and industry, and a network of lines radiating in all directions, the situation became particularly difficult. Accordingly, a committee comprised of senior officers of the company was formed to study the problem and to determine the most desirable solution.

Such a study involves a detailed analysis of traffic movement—its origin, destination, volume, fluctuations and probable future trends in the light of the anticipated growth and expansion of the Canadian economy. It also entails an appraisal of existing facilities and examination of possible sites for new construction.

The principal existing terminal yard at Outremont is solidly surrounded by industrial and residential development and consequently the committee reported that enlargement of facilities in this location was not feasible. Locations for a new terminal, adjacent to existing main lines, were then examined, and of several possible



The Location of the New St. Luc Yard in Relation to C.P.R. Other Yards, Main Lines, Shops and Terminals in the Montreal Area

sites, one situated on the western edge of the city, just beyond Montreal West, was recommended. It lay in the northwest quadrant formed by the intersection of the main line leading to Montreal from Smiths Falls and the west with the main line from Sherbrooke and the east. It is rather singular that in this area of almost 700 acres adjacent to a metropolitan centre there was not a single dwelling to be removed, or a highway to be crossed.



Looking Toward Crest of Hump from First Power Switch

With the choice of a site made, the next decision concerned the method of operation to be adopted. Since the prinicipal function of a freight terminal is to sort cars from arriving trains into new classifications, according to destination, for making up departing trains, the method of classification employed is of paramount importance. Three methods considered were:

1. Flat switching—in which a locomotive sorts a string of cars into a series of parallel tracks by push and pull movements.
2. Hump with riders—in which a string of cars is shoved up an incline by a locomotive, and cars are uncoupled as they reach the crest and run by gravity down the opposite side into classification tracks. Riders control the speed of the cars by the use of hand brakes. Switches leading to the various classification tracks are hand operated by switchmen.
3. Hump with car retarders — in which the speed of cars down the hump is controlled by mechanical devices attached to the rails which grip the wheels of cars as they pass. Switches are power operated.

Careful consideration of requirements with respect to capacity and speed, and cost comparisons favored the selection of hump yard with car retarders.

With these basic decisions made the next step was to develop plans for the new terminal. This was, in itself, a major undertaking, involving a determination of number, capacity and arrangement for more than 75 miles of trackage, the method of connection to existing lines, together with requirements for signalling, buildings, communications, water, sewers, roadways and drainage. Although this created a complex design problem it had advantages too. The transition from flat switching to hump yard operation by American railways has seldom been made by the construction of an entirely new terminal but rather by incorporation of existing facilities in the new layout. In developing plans for a complete new yard it was possible to avoid objectionable features which inevitably result when existing facilities have to be adapted to new uses. Another advantage was that work could be undertaken without interference from or the necesity of providing for the handling of traffic since trains continued to be routed to existing yards which remained unaffected.

The site selected permitted the design of the yard on a unidirectional basis, so that all traffic, east, west, north and southbound, would enter the yard at one point, pass over the same hump, and leave at one point. The undesirable alternative would have been a complete hump yard installation for, say, northbound and eastbound trains, and a separate complete installation for westbound and southbound trains. Such an arrangement would necessitate frequent transfer of cars arriving, for instance in the one yard on an eastbound train, to the other yard for dispatch in a southbound train. Apart from the



Aerial View of Departure and Classification Yards, Showing Engine House, Coaling Plant and Water Tower at Right

delay and expense entailed these transfers also interfere with other yard movements. The new terminal is laid out similar to a huge traffic circle. Trains will enter and leave at the periphery minimizing the possibility of conflicting movements.

The basic elements of a hump yard layout comprise a receiving yard, where arriving trains enter and are prepared for humping; the hump itself; a clasification yard which receives the cars as they are sorted during the humping operation; and a departure yard where strings of cars from the classification yard are assembled into trains for forwarding to other destinations. In some instances, particularly where land is limited, classification and departure yards have been combined in one layout. At Montreal the land available at the selected site did not exert this influence on design, and as a study of hump yards in the United States indicated the desirability of providing a separate departure yard, it was so planned.

To determine the number of tracks required in each of the above yards, time-occupancy studies were made of peak traffic periods by using dispatchers train sheets which showed the time of arrival of each train and its consist. The entire operation was then duplicated graphically on the basis of estimated times for pushing cars over the hump and directing them into the clasification yard as well as the procedure of making them up as trains and preparing them for departure. Time-occupancy charts indicated that a receiving yard of 15 tracks, a classification yard of 40 tracks and a departure yard of 12 tracks were necessary. To determine the capacity of the repair yard, studies were made of the number of cars repaired at the various points in Montreal Terminals to be replaced by the new installation and a suitable allowance for future peaks added. On this basis a repair yard providing adequate working space for 300 cars was decided upon. In addition to the above, provision had to be made for approximately 400 cars storage space so that cars assigned to overseas points may be held in Montreal rather than at point of embarkation awaiting shipping space. Track facilities had also to be provided for the making up of way freights, the accommodation of vans and for the icing of refrigerator cars. The above, together with a number of service tracks, entrance leads, running track, switching leads, inbound and outbound shop tracks constitute a total length of trackage of 75.18 miles and is made up as shown in the accompanying two-column table.

Yard Trackage and Capacity

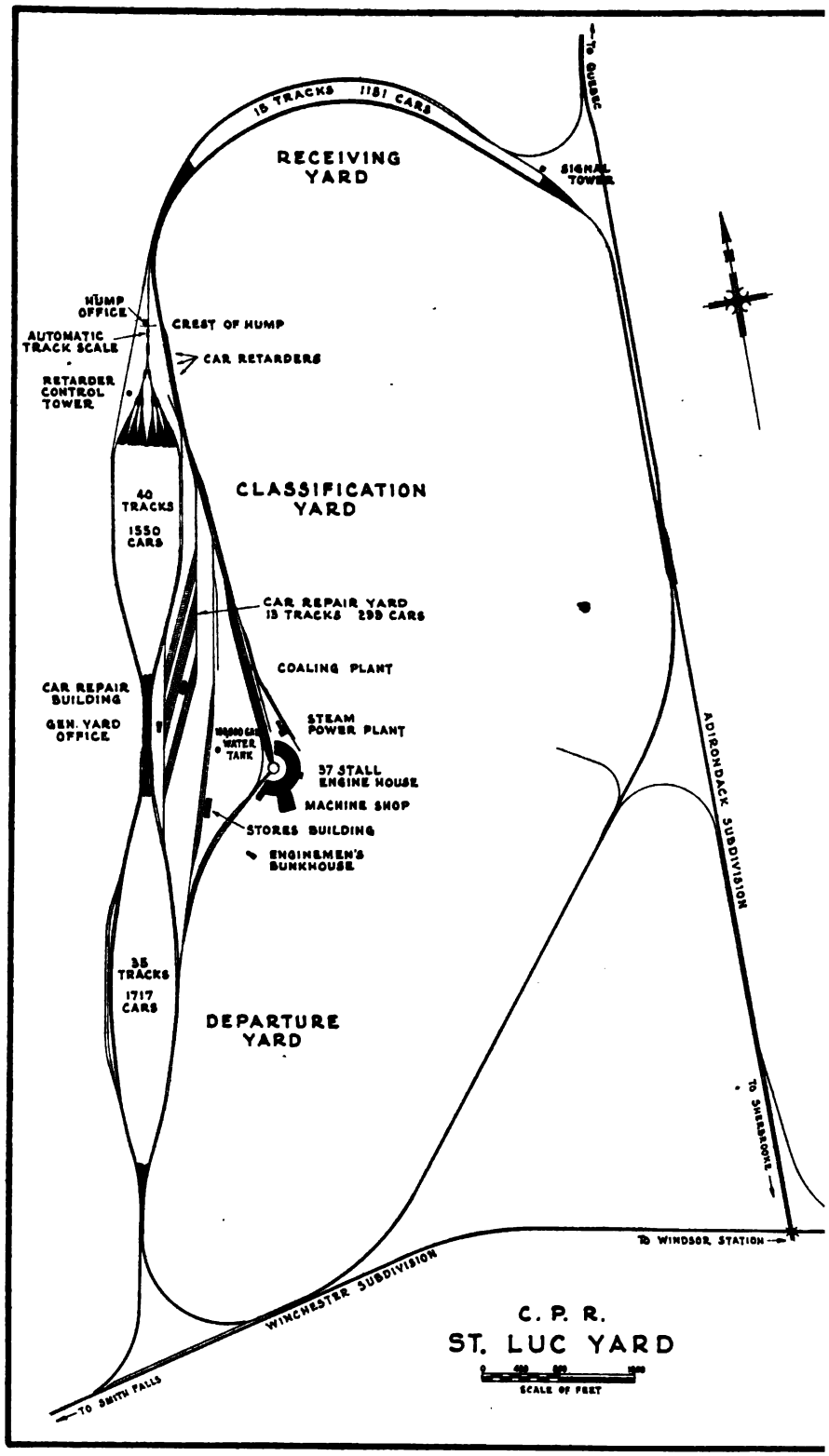
Receiving Yard	15 tracks	1151 cars capacity
Classification Yard	40 tracks	1550 cars capacity
Car Repair Yard	13 tracks	299 cars capacity
Departure Yard—composite yard made up as follows:		
12 Departure tracks		958 cars
9 Storage tracks		394 cars
8 Way freight tracks		220 cars
4 Van tracks		65 cars
2 Icing tracks		80 cars
35 tracks	1717 cars capacity.	

In addition to the above the following service tracks have been provided—

1 Stores track	24 cars
2 Auxiliary tracks	53 cars
1 Passenger extra servicing track	21 Pass. cars
2 Coal & Cinder tracks	40 cars
2 Transfer Van tracks	14 cars
8 tracks—152 cars capacity	
Total tracks to be used as sidings or for switching and storage purposes.	111 tracks—4869 cars capacity

The yard layout chosen places the entrance to the yard at a point just south of Blue Bonnets Race Trac and the exit just west of Wentwort Golf Course. The length of the ya between entrance and exit is slightl more than three and one half mile The total area occupied compris 682.4 acres.

The purchase of this block property from some forty proper holders was a complicated legal ar real estate undertaking. In no instan did a property holder suffer separ



Layout of the New C.P.R. St. Luc Yard and Facilities and Main Line Connections

tion of his lands as a result of the terminal development.

Construction operations were commenced around the beginning of November, 1947. Of the 682.4 acres comprising the total area of the yard, 266 acres were densely wooded and standing timber had to be removed and the area thereafter grubbed. Due to the low lying nature of the site,



The Hump Office
Note the trimmer and hump signal mounted on the one mast.

entire track level, had for drainage purposes, to be kept at a reasonable height above ground level with the result that although approximately 450,000 cu. yd. of excavation was removed from cuts and placed on embankments, a further 950,000 cu. yd. of gravel fill had to be hauled in by train from a point approximately 25 miles north of Montreal and also deposited in embankments. The entire grading operation was completed by the fall of 1948 and in addition to this approximately 25 miles of track had then been laid. The balance of tracklaying and installation of turnouts as well as the hauling and placing of approximately 200,000 cu. yds. of gravel ballast were performed during the season 1949. During the trainfill operation an average of approximately 6,000 cu. yd. of gravel per day was loaded on cars, hauled to the site, unloaded and placed, involving the use of three work trains hauling and two work trains in the yard distributing, unloading and spreading.

Detailed design of track layout was made to conform to the principles set forth by the American Railway Engineering Association in its Manual of Recommended Practice, modified to suit Canaidan requirements where necessary. In outline the basic principles adopted were:—

Maximum Curvature of Tracks—12° 34'.

Minimum Spacing between Yard Body Tracks—on tangent, 13 ft. 6 in. —On curve, 13 ft. 6 in. plus 2⅛ in. per degree of curve.

Track Capacity—Computed on the basis of 45 ft. length per car, except in car repair yard where 50 ft. was used.

Gradients—Receiving Yard—Limited by the ruling grades encountered en route by arriving trains, also should not require the setting of hand brakes to prevent cars from moving. Grade selected varies from level to 0.40% rising towards the hump.

Classification Yard—Ideal grade is that which will just offset rolling resistance of easy rolling car, so that it will neither accelerate nor decelerate. Grade selected 0.22% descending.

Departure Yard—Not to exceed 80% of ruling grade encountered by departing trains after they have left yard, and should not require the setting of hand brakes to prevent cars from moving. Grade selected 0.18% descending.

Design of Hump.—The grade leading to the summit of the hump should be such that one locomotive can shove a train over the hump at the required speed. In designing the descending side of the hump the following must be provided for:—

(1) The establishment of adequate fall to enable the hardest rolling car (for example, an empty flat car) to leave the crest of hump at normal humping speed and to maintain a sufficient speed to take it beyond the point of clearance of the track in the classification yard to which it is being directed under the most unfavourable conditions, i.e., adverse winds and/or sub-zero temperatures.

(2) The grouping and location of a system of car retarders, capable under the most favourable running and weather conditions, of retarding a car of 100 tons gross weight, from a cut-off speed of two miles per hour as it leaves the first retarder and of retarding it thereafter to a stop in the last retarder through which it may be routed with a safety margin of not less than 0.5 feet velocity head. Grades should be so arranged as to permit the car after leaving the last retarder to be delivered into the classification yard track to which it is directed at a coupling speed not in excess of 4.2 miles per hour.

The following values for resistance have been determined by test by the American Railway Engineering Association:—

(1) Percent gradient equivalent to the average resistance of hard rolling cars under adverse conditions between crest of hump and leaving end of the last retarder—1.4%.

(2) Percent gradient equivalent to the average resistance of hard rolling cars under adverse conditions between end of last retarder in any group and clearance point of any track in the group—0.9%.

(3) Curve resistance of hard rolling cars under adverse conditions expressed in feet drop per degree of central angle passed through—0.045 ft.

(4) Percent gradient equivalent to the resistance of an easy rolling car beyond the last retarder 0.22%.

(5) Curve resistance of easy running cars under favourable conditions expressed in feet drop per degree of central angle passed through—0.025 ft.

(6) Percent gradient equivalent to the resistance (including resistance of switches) of easy rolling car under favourable conditions between crest of hump and the last retarder—0.3%.

The total drop in feet necessary to take the hard rolling car from the crest of hump to the clearance point is established by multiplying the percentages in (1) and (2) by the distances involved and adding the product of the foot drop in (3) times the total angle passed through.

The drop in feet between the last retarder and the clearance point should be such that an easy rolling car released from the last retarder will not accelerate. This drop is estab-



Looking Toward Classification Yard from Crest of Hump, Showing Automatic Scale Retarder and Automatic Track Scale in Foreground, Floodlight Tower, and Retarder Tower and Powerhouse to Right

lished by multiplying the percentage in (4) by the distance involved and adding the product of the foot drop in (5) times the angle pased through in the same distance. The diference between this figure and the total drop from crest of hump to clearance point is the drop between the crest of hump and the last retarder.

The next step is to determine the retarder capacity necessary to control the speed of the easy rolling car under favourable conditions.

Multiplying the percentage in (6) by the distance from the crest of hump to the last retarder, and adding the product of the foot drop in (5) times the total central angle in the same distance, produces a figure which represents minimum loss in velocity head of an easy rolling car moving between the hump and the last retarder due to rolling and curve resistance. Subtracting this figure from the total drop in feet between the crest of the hump and the last retarder, the theoretical retardation required is established. To this latter figure the velocity head represented by humping speed of two miles per hour and the safety margin of 0.5 ft. have to be added. Since the type of retarders employed have a capacity of 2.2 feet velocity head per 38.5 foot section when applied to a 100 ton car, determination of the number of retarder sections required is simply a matter of division. Due to the greater distance from crest of hump to the outer groups on each side of the yard and also due to the greater curvature necessary in these groups, they are lower than the groups adjacent to them, which in turn are lower than the center groups. This makes the cross section of the yard a series of steps by groups, which is not objectionable so long as the difference in elevation does not exceed 8 in. for adjacent tracks. The grading of all tracks in the same plane as the tracks of greatest curvature would result in the acceleration of heavy, easy running loads on tracks of lesser curvature, necessitating a lower release speed for such cars.

The speed of cars moving to rest in the classification yard is of utmost importance. To avoid undue shock to cars and lading a safe coupling speed should not be exceeded. At the same time it is desirable that cars run well up into the yard before coming to a stop. As previously mentioned, the grade on the classification yard tracks is designed to keep a free running car moving at constant speed until it is brought to rest by the skates which are placed on the rails at the far end of the classification yard tracks.

Car Retarders.—The equipment used for controlling the speed of cars on their descent from crest of hump to classification yard is the all-electric type car retarder.

Retarder mechanisms are generally made in lengths of 38 ft. 6 in. and are equipped with four cast steel shoes, one on each side of each rail, which are pressed against the inner and outer sides of the bottom 2 in. segment of wheels of passing cars. The intensity of pressure is varied by an electric motor drive through a train of gears to a series of levers and springs which open or close the space between retarder shoes. Rotation of the motor in one direction moves the shoes towards each other. Rotation of the motor in the opposite direction spreads the shoes.

To effect retardation, the shoes are positioned so that the space between them is less than the width of a car wheel. As the wheel moves between the shoes the retarder springs are compressed. The amount of compression of the springs determines the degree of retardation. The shoes may be placed in one of four positions or they may be opened to clear the wheel and the setting may be changed irrespective of whether there is a car in the retarder at the time or not. A solenoid brake on the motor maintains the retarder in any selected position until the setting is changed.

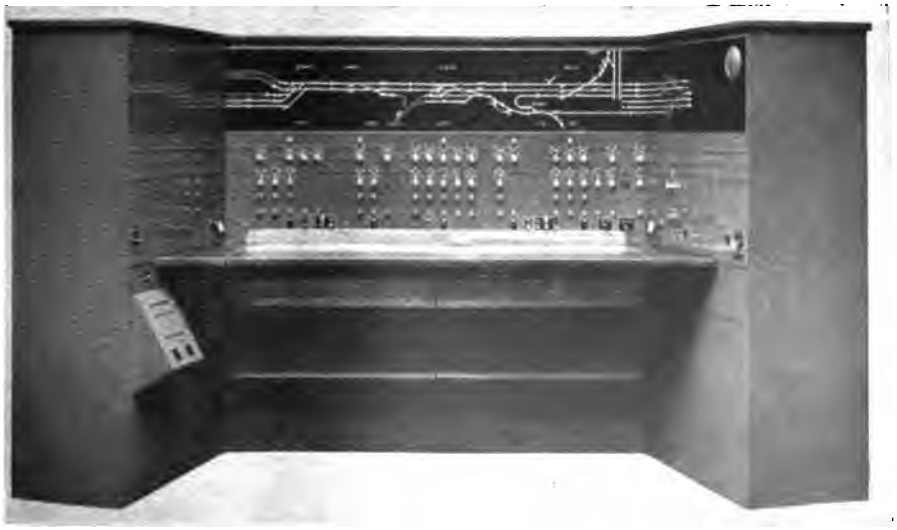
The degree of retardation required varies with car resistance. This in turn depends on the weight of car, condition of journals, wheel wear, wind resistance, temperature, etc. It is for this reason that provision is made to enable the operator to vary retardation applied. The controls consist of a position selector for each retarder and a toggle switch for each section. The usual practice followed is to set the selector control in a position estimated to be satisfactory in advance of the entrance of the car; when the car has been slowed to the desired speed the operator then opens the toggle switches without changing the retarder setting. Should he have erred in judgment as to the correct setting, the selector can be repositioned to any other degree of retardation whether higher or lower. When handling long cuts of cars it is customary to manipulate the selector control to attain desired degree of retardation.



Retarder Tower and Power House

Closely associated with the operation of retarders is the control of electrically operated switches between the crest of hump and entrance to all classification tracks. An entirely new system of automatic switch control developed by the General Railway Signal Company, who also supplied the car retarders, is especially suitable for application to humping operations.

Automatic switch control in the new Montreal Freight Terminal was the first installation of its kind to have been adopted by any railway in North America. Two United States railways have since decided to install this feature. The trackage between the crest of hump and switches leading to classification tracks is divided into a number of circuits by insulated rail joints. The routing of a car to any



Central Traffic Control Machine in Signal Tower

specific track in the classification yard is accomplished by pushing a button on a control machine at the crest of hump. The route to be followed by that car is then set up by a system of relays which position switches along the route just in advance of the movement of the car until it reaches the designated track. High speed electric switch machines are used with track circuits arranged so that switches will not be thrown under a car or whenever there is insufficient time for switch movement to be completed. Proper spacing between successive cuts of cars must be maintained for if Car B overtakes Car A, B will follow A leaving its route behind to misdirect Car C and so forth. Provision is made to enable the retarder operator to cancel unused route directions for Car B in such cases so that succeeding cars will follow their proper route.

The system provides for storing route directions for four consecutive cuts of cars at one time. As one movement is completed another movement may be set up or if three movements have been completed three more may be set. The advantage of automatic switch control over the conventional system is that it eliminates the necessity for manipulating controls for each of the four to seven switches that each cut of cars must pass over en route from hump to classification track, each switch having to be operated at the proper time to suit the movement of the cut.

With manual switch control in a yard of this size three retarder operators stationed in three separate towers would have been required, each having the duty of operating the switches and retarders in a given area. Under automatic switch control one operator in a single tower controls all retarder operations and is relieved of the positioning of switches since routes are establshed by the foreman in charge of humping operations. The automatic system will save labor, eliminate hazard and errors inherent



Signal Tower, at Entrance to Receiving Yard

in human control, and make for better regulation of car movement, since the control of all retarders is co-ordinated in one operator.

Track Scale.—Approximately 4 to 5% of the cars passing over the hump require to be weighed. The most convenient place in the yard for this operation is at the hump, over which all cars pass. Inasmuch as cars weighed require to be uncoupled from adjacent cars it was apparent that in order to avoid interruptions to humping operations it would be necessary to make provision for weighing while cars were in motion. Accordingly a Fairbanks-Morse four-section, Suspension Bearing type track scale, having weigh rails 76 feet long and a capacity of 150 tons, was installed just beyond the crest of the hump. Operation of this type of scale requires that each car to be weighed shall be scaleborne for a period of not less than four seconds. To secure this interval an automatic scale retarder has been installed just in advance of the scale. The track in advance of and through this retarder is equipped with a number of short track circuits connected to timing relays. As a car approaches and passes through this retarder the track circuits will maintain a check on its speed, and, through the timing relays, arrange for retardation to be applied or released as may be required. A control button located in the hump office will enable the foreman to render this retarder inoperative when cars being humped do not require weighing, or for trimmer engine movements, or to apply full retardation, if for example it is necessary to bunch the slack in cars at the crest of the hump to enable the pin puller to make a particular cut.

The track scale is equipped with a Streeter-Amet Automatic recording device to register the gross weight of the car. The scale operator records the tare stencilled on the side of the car, and by subtraction, net weight is obtained.

The scale is also equipped with a dead rail assembly so that locomotives may be operated over the scale without imposing traction stresses on the weighing mechanism.

Hump Signals.—Control over hump movements is exercised by means of a signal system operated from the hump office. Appropriate aspects can be displayed to indicate proceed toward hump, proceed at humping speed, stop or back up. Provision is also made to enable the retarder operator to change the hump signal indication to "stop." The hump signal is situated on a high mast at the crest of the hump. As the hump engine is placed at the rear end of a string of cars being humped, the view of this signal from the engine cab may be restricted by obscure weather, or by the curve at the hump end of the receiving yard. Accordingly engines assigned to humping service have been equipped with cab signal apparatus, and each track in the receiving yard is equipped with necessary circuits. When the switches leading from a track to the hump are properly positioned for a movement from that track, the aspect displayed by the hump signal will be repeated on a miniature signal in the cab of an engine on that track. If the switches are not properly lined, the cab signal will display "stop." This arrangement also ensures that when two engines are used to hump alternately, only one can receive a proceed indication.

The hump signal mast also carries a trimer signal, faced towards the classification yard and used to control movements of an engine engaged in adjusting the position of cars in the clasification tracks after humping. The trimmer signal and hump signal are interlocked to prevent conflicting movements. The indication displayed by the trimmer signal is duplicated by a repeater signal located part way down the classification yard, but is not repeated in the engine cabs.

Under Track Inspection Pit.—The inspection of cars passing through a terminal is of great importance in any railway operation. An unobserved defect may be the cause of a subsequent derailment involving both loss of life and property. To facilitate care-



Two Views of Operator at Centralized Control Machine in Signal Tower

ful examination of running gear and underbody parts of cars an inspection pit has been provided under track level and just in advance of the crest of hump. In this pit one man will be seated directly under the center of the track and one man on the outer side of each rail. As cars are pushed over the hump at a speed of approximately two miles per hour, these men will observe the under side of cars through shatter proof plate glass windows in the top of the pit and with the help of a battery of floodlights. If a defect is found, the car is tagged and the hump foreman and retarder operator advised that the car should be directed to the repair track instead.

A dragging equipment detector is to be installed on the hump track in advance of the car inspection pit. In case of anything dragging on a train being humped, this detector will operate a warning signal in the pit and set the hump signal at "stop."

Main Line Signalling.—To provide means for easy entrance to and exit from the new yard, connections with main line tracks have been made at four existing junction points, and two new junctions established. At all of these points power operated switches have been provided and signals installed to control train movements whether to or from the yard, or over the main line. Operation of switches and signals is controlled from a machine located in the signal tower at the entrance to the receiving yard. This machine also controls movements at Outremont junction, formerly operated from yard office at that point, and provision has been made for extension in either direction to include four additional junctions now separately controlled.

Coded track circuits have been employed to avoid possible interference from stray electric currents which might be experienced with the conventional steady energy circuits.

Buildings and Services

Engine House.—An entirely fireproof monitor-type structure of reinforced concrete frame, brick walls with tar and gravel roof laid on precast Haydite slab. There are 37 stalls, 27 of which are 130 ft. long and 10—140 ft. long. Access to all stalls is over a 110 ft. three-point bearing turntable so located that the 37 engine pit tracks radiate from its centre. A system of direct steaming of locomotives is provided. Before entering the shop locomotives will dump their fires at a three-track cinder disposal plant located on the inbound shop tracks and then proceed over the turntable to an assigned stall using the steam remaining in their boilers. The hot water in the locomotive boiler is drawn off by means of pumps and deposited in a storage tank from which point it is again pumped to refill the next engine to be dispatched. In addition to obtaining a supply of boiling water the leaving engine will also receive a charge of steam from the steam power plant which will enable it to leave the shop via the turntable and be taken to outbound shop tracks where it will be lit up so that it may proceed on its own steam from that point. This system effects a considerable saving in fuel during the period that a locomotive remains in the shop between runs and minimizes the emission of smoke.

A machine shop approximately 160 ft. wide by 200 ft. long adjoins the engine house and provides space for carrying out running repairs of all kinds. A full complement of machines such as lathes, shapers, boring mills, drill presses, etc., are provided, and space for electricians, blacksmiths, carpenters and various allied trades is also included. Well equipped washrooms, locker rooms and lunch rooms for shop employees are located in this area. A Whiting Drop Table has been installed under three tracks entering the machine shop, to permit of changing driving wheels on steam locomotives and removing an entire truck from Diesel units. Office space for the acommodation of the locomotive foreman and his staff of engine dispatchers, clerks, timekeepers, etc., is located adjacent to one end of the enginehouse and paralleling the outbound shop tracks.



Power Operated Switch, with Switch Signal

Steam Power Plant.—The power plant is a brick structure on reinforced concrete foundations with a structural steel frame, tar and gravel roof on precast Haydite slab. This structure houses three boiler units, each of which develops 35,000 lb. of steam per hour at 250 lb. boiler pressure and 550°F. total temperature. The steam developed is used (1) for direct steaming of locomotives, (2) for heating adjacent buildings, including engine house, (3) for various other facilities such as engine washing platform, etc. Adjacent to this structure is located the main sub-station, where primary power is received and distributed to various sections of the yard.

The cooling plant is a reinforced concrete structure with storage capacity for 400 tons of coal. The operation of this plant is as follows:—Coal brought in by hopper cars is emptied into an under track hopper and elevated by a vertical bucket conveyor to storage bins well above track level. From these bins coal is supplied to locomotives by gravity through control gates and steel delivery chutes. Dry sand storage pockets are provided in this structure. After sand is dried in an adjacent sand house at ground level, it is delivered to these pockets by compressed air and supplied to locomotives by gravity.

The cinder disposal plant employs a continuous pan type conveyor housed in a reinforced concrete pit. under three tracks. The conveyor carries cinders, dumped by locomotives and extinguished, up an inclined frame designed to remove excess moisture before they are discharged from a steel tower to cinder cars below.

Washing Platform.—A reinforced concrete platform with underground pipe ducts serves three inbound shop tracks. Steam, water, air and cleaning solution are provided for washing engines at each track. Standards are provided for fueling Diesel units.

The stores building is a one storey, 200 ft. long by 50 ft. wide, brick structure with reinforced concrete frame and raised concrete platform, providing accommodation for equipment and supplies required in the maintenance of locomotives, cars, track, buildings, etc., in the terminal area.

Enginemen's Bunkhouse.—A two storey brick building 95 ft. long by 40 ft. wide, with reinforced concrete frame and roof slabs, has 30 bedrooms, each equipped with two beds, and provides cooking and dining room space, lounge, toilets, showers and lockers.

The car repair building is a two storey structure with reinforced concrete frame and roof slab, approximately 145 ft. long by 40 ft. wide, providing shop facilities, office, dining, locker and lavatory space for the personnel engaged in maintenance of freight cars.

The general yard office is a two storey brick building 70 ft. long by 35 ft. wide, with reinforced concrete frame and roof slabs, containing office space necessary for the yard office staff. Space has also been provided for teletype and other communications equipment. A tower located on one end of this structure is equipped with double glazed sash with glare reducing plate plass windows and provides a vantage point for observing operations both in the classification and departure yards. The general yardmaster will have his office in this tower and will have direct communication by telephone, loudspeaker or teletype with the various key points in the terminal.

Retarder Control Tower. — This structure has a reinforced concrete and brick ground floor with steel frame tower enclosed in corrugated asbestos siding with reinforced concrete roof slabs. The ground floor accommodates relays and power generating equipment, as well as work space for maintainers. The basement contains the storage batteries, heating system, toilets, lavatories, etc. The observation tower, where the retarder control machine is located, is 45 ft. above track level, and permits the operator to observe movement of cars between the crest of hump and the body of the classification yard. Double glazed sash with glare-reducing plate glass is installed on three sides of the tower.

Hump Office.—A one storey brick structure 17 ft. by 25 ft., with reinforced concrete frame and roof slab, provides accommodation for two car checkers and hump foreman in charge of humping operations and houses the automatic switch control machine, hump signal equipment and scale retarder apparatus. Double glazed sash with glare-reducing plate glass is also used in this structure.

Signal Tower.—A two storey brick structure 20 ft. by 26 ft., with reinforced concrete frame and roof slab, accommodates centralized traffic control equipment controlling main line signals and switches governing approaches to the new terminal from all directions for both inbound and outbound trains. To provide for future interlocking of the receiving yard entrance, the upper floor of this structure is at a height that will provide a good view of the throat of the yard. Double glazed sash with thermopane glare reducing plate glass has also been used on the windows of the upper floor.

A number of other small buildings have been constructed at strategic points in the yard affording accommodation, lunchroom, locker space, lavatory space, etc., for Carmen and Yardmen.

Primary Services. — To furnish water, sewer and power services to the various buildings above described, many miles of water lines, sewers and drains had to be constructed. A 12 in. diameter cast iron water line was laid from the City of Montreal water main on Cote St. Luc Road to a 104,000 gallon elevated steel water tank erected close to the engine house. Twelve inch lines were continued from that point to standpipes located on both inbound and outbound shop tracks for watering locomotives. In addition to this a complete system of lines had to be laid to furnish water to fire hydrants and buildings. During construction of this system of water lines, much solid rock excavation was encountered.

Sewage from all buildings located in the central portion of the yard is collected in a 24 in. pipe which discharges by gravity into a sewage station, and thence is pumped by two 1800 G.P.M. sewage pumps through a 24 in. pressurized sewer main to the City of Montreal's 48 in. sewer on Cote St. Luc Road. Overhead and underground steam, air and condensate return lines between the power house and buildings in the central area are of prefabricated, insulated, composite Rio-wil pipes.

A 12½ KVA primary power service is obtained from Quebec Hydro adjacent to Cote St. Luc Road. This is taken by a pole line, built at the expense of the railway company, to its main sub-station adjacent to the steam power plant, and stepped down to the appropriate voltage for the various services.

Amongst these services is included a system of floodlighting to facilitate night operation at various strategic points, notably at the entrance end of the receiving yard, at the crest of the hump, at the throat between the classification and departure yards, and at the leaving end of the departure yard. Floodlights are carried on high steel towers 80 to 100 ft. high.

Roadways.—Service roadways to afford access to the terminal from city streets and to connect various points within the terminal were likewise provided. This embraced construction of 5.25 miles of roadway, including a steel and concrete subway under the hump track embankment to connect roadways on one side of the yard with those on the other.

Communications.—To provide ready means for transmitting instructions and exchanging information throughout the terminal area, several systems of communications facilities have been provided.

Approximately 20 telephones connected to the Bell system provide connection to the Montreal area. For direct communication with train dispatchers at Smiths Falls, Farnham, Park Ave., and Utica, N.Y., telephone and telegraph instruments are located in the signal control tower and general yard office.

For communication between various points within the terminal area, there is a private automatic telephone exchange system of 100 line capacity. Approximately 40 phones are installed at present. A teletype system, with transmitter in the general yard office, is used for supplying hump list, prepared from conductors' way bills, to hump office and retarder control tower. Finally, a loud speaker system with instruments in the car inspection pit, hump office, retarder and control tower, and general yard office, with outside speakers for skatemen in the classification yard, provides direct communication between those concerned with humping operations.

Method of Operation

The foregoing constitutes a brief description of the various facilities provided. The use of these facilities can best be portrayed by describing the movement of a train through the yard.

The arrival of each train will be anticipated on the basis of information received by the operator in the signal tower over the dispatchers' telephone circuit. As the train enters the area controlled from the tower, lights on the track diagram on the centralized traffic control machine will indicate its progress. By remote control, the operator will line up the switches and clear the signals to divert the train from the main line onto the receiving yard lead. Switch tenders will set the hand throw switches



Engine House and Turn Table

leading to the particular track which the train is to use. After the train has stopped on the designated track, the train crew will book off duty at the signal tower, the conductor handing over his way bills, which are taken by automobile to the general yard office.

The engine crew, assisted by an engine herder, will cut the engine off the train and take it to the inbound shop track, following which the engine crew book off duty at the enginehouse. A hostler sees that the engine is supplied with coal and water, dumps its fire at the ashpit, and moves it over the turntable and into the enginehouse.

At the general yard office, a hump list is prepared from the conductor way bills and transmitted by teletype to the retarder operator and hump foreman. This list, in which cars appear in the order they are arranged in the train, shows car number, type of car, whether loaded or empty, and if loaded the nature of the contents, the number of the classification yard track to which car is to be directed, and destination.

Meanwhile the train in the receiving yard is readied for humping. After the van has been cut off, a Diesel locomotive will couple onto the rear end, and when the cab signal indicates proceed, the train will be shoved towards the hump. As cars pass over the inspection pit any defects will be observed and the information communicated over the loud speaker system to the hump foreman and retarder operator who will make corrections on their teletype list to divert cars to the classification yard track designated to receive cars requiring repairs.



The Push Button Machine for Automatic Switching, Located in the Hump Office

As the leading car approaches the hump the cab signal indication will be changed to "hump slow", either by the hump foreman, or if his attention is momentarily diverted, then automatically.

The hump foreman will push the appropriate buttons on the automatic switching machine to divert cars to the proper track. As cars reach the crest of the hump, the pin puller uncouples them to allow them to run down the opposite side. If two or more consecutive cars are destined to the same classification track they are humped as one cut. The hump foreman signals the pin puller by means of a horn as to how many cars constitute each cut. If a car is to be weighed it must pass over the scale as a single unit uncoupled at both ends. The hump foreman will change the scale retarder control from "open" to "automatic" and the scale operator will record the gross weight and tare of the car.

The speed of cars in their descent from the hump to the classification yard is controlled by the retarder operator. His duty is to see that cars are separated sufficiently to enable switches to position themselves between cuts, and to reduce cars to a safe coupling speed entering the classification tracks.

At the other end of the classification yard, pulldown locomotives will remove cars from the various classification tracks in the proper order and assemble them in a track in the departure yard. The number of cars constituting the proper tonnage for the type of locomotive which is to handle the departing train must be determined. When the cars have been placed in the departure track, the van assigned to the crew which is to take the train out is added, air hoses between the cars are coupled, and the air brake system charged with compressed air supplied from the steam power plant through a system of piping serving each departure track.

Meanwhile an engine, ordered to handle the departing train, will be turned out of the enginehouse on the charge of steam supplied its boiler by the direct steaming plant. On the outbound shop track its fire will be lit, tender filled if necessary, and the engine turned over to the engine crew called for this train. They will take the engine to the departure yard and back it onto the train, following which air brakes are tested and inspected.

The train crew called for this train come on duty at the yard office where the conductor receives way bills covering cars in his train. When he has delivered a copy of any train orders he may have to the engineer the train is ready to depart. It leaves the yard and proceeds on signal indication to the main line, the route having been lined up by the operator at the signal tower.

This procedure is repeated several scores of times per day. During peak period 2,800 to 3,000 cars per 24 hours will pass over the hump and will continue without interruption during fair weather and foul, during night and day, during work days, Sundays and holidays, so that the railway may continue to furnish efficient and economical transportation service to Canada.

The Car Repair Building



J. J. Richardson, as Engineer, was in charge of construction of the new St. Luc yard, a $10 million project.

CONTRACTORS AND SUPPLIERS

Many contractors and supply companies were concerned in the construction of the notable yard and terminal facilities described in the foregoing; these are listed in the following.

Construction of engine house, machine shop, turntable pit, bunkhouse, car repair building, stores building, car inspection pit, hump subway (concrete work), Chas. Duranceau Ltee., Montreal.

Construction of track scale pit and house, yard office, signal tower, retarder control tower, hump office, A. F. Byers Construction Co., Montreal.

Construction of steam power plant, Anglin-Norcross Ltd., Montreal.

Clearing, grading, tracklaying, ballasting and fencing, Therrien Construction Co., Toronto.

Installation of water and sewer lines, roadways and ditching, H. J. McFarland Construction Co., Picton, Ont.

Steel piles at track scale, Campbell and Rutherford, Montreal.

Radial brick chimney for power plant, Custodis Canadian Chimney Co., Montreal.

Direct steaming plant and boiler washout plant, Direct Steaming Co., Ville St. Laurent, Que.

Water testing equipment for the steam power plant, E. F. Drew and Co. Ltd., Ajax, Ont.

Ash conveyor equipment for steam power plant, Preston Phipps Inc., Montreal.

Coal conveyor equipment in steam power plant, Jeffrey Mfg. Co. Ltd., LaSalle, Que.

Power plant steelwork, steam generators, stokers, feedwater pumps and controls, turntable, signal bridges, hump subway (steelwork), Dominion Bridge Co., Ltd., Lachine, Que.

Precast roof slabs for engine house and steam power plant, Aerocrete Construction Co., Montreal East.

Cinder plant machinery, coaling plant machinery and sandhouse equipment, Williams and Wilson, Ltd., Montreal.

Machine shop machinery, John Bertram and Sons Ltd., Dundas, Ont.

Inspection of concrete, Milton Hersey Co., Ltd., Montreal.

Cement, Canada Cement Co., Montreal.

Ready mix concrete, Mount Royal Paving and Supplies and Dominion Building Materials, Montreal.

Reinforcing steel and wire mesh buildings and structures, Truscon Steel Co., Montreal.

Power plant piping, steam and air distribution system, Garth Company, Ville St. Laurent, Que.

Brick, Laprairie Brick Co., Laprairie, Que.

Glass bricks and window glass, Jos. Charlesbois, Montreal.

Woodwork and doors, Daigle and Paul, Verdun, Que.
Doors for engine house stalls, Richards-Wilcox, Ltd., Montreal.
Unit heaters, Grid Industrial Equipment Co., Montreal.
Flashings for buildings, Eastern Steel Products, Montreal.
Steel window sash, Westeel Products, Montreal.
Ric-Wil conduit for steam and air lines, F. S. B. Heward and Co., Ltd., Montreal.
Cast iron water pipe for water lines, Canada Iron Foundries, Montreal.
Tile pipe for drains, Standard Clay Products, St. Johns, Que.
Reinforced concrete pipe for main sewer lines, Pressure Pipe Co. of Canada Ltd., Montreal.
Concrete pipe for sewer line, The Dominion Concrete Co., Ltd., Kemptville, Ont.
Inspection of sewer and water pipe, Chas. Warnock and Co., Ltd., Montreal.
Fire hydrants and gate valves, T. McAvity and Sons, Ltd., Montreal.
Gate valves for water lines, Jenkins Bros., Ltd., Montreal.
Railway water tank, Horton Steel Works, Fort Erie, Ont.
Altitude valve for water tank, Keith Mercer Reg'd., Montreal.
Standpipes and track scale mechanism, Canadian Fairbanks-Morse, Ltd., Montreal.
Steel for track scale, Hamilton Bridge Co., Hamilton, Ont.
Installation of main power lines, transformers and floodlight towers, Canadian Comstock Co., Ltd., Montreal.
Electrical transformers, Packard Electric Co., St. Catharines, Ont.; Moloney Electric Co. of Canada, Toronto; Commonwealth Electric Corporation, Welland, Ont.
Electrical transformers and cable for signals, Canadian General Electric Co., Montreal.
Private automatic telephone exchange, teletype instruments, electrical transformers and cable for communications and signals, Northern Electric Co., Montreal.
Cable for car retarder and signal systems, Canada Wire and Cable Co., Toronto.
Storage batteries for car retarder system, signalling and communications, Exide Batteries of Canada, Toronto.
Control machine and apparatus for main track signalling, Union Switch & Signal Co., Swissvale, Pa., U.S.A.
Acid resistant varnish for signal use, Canadian Industries Ltd., Montreal.
Car Retarders, automatic switching apparatus, hump and cab signals, General Railway Signal Co., Rochester, N.Y., U.S.A.
Galv. strand wire and track spikes, The Steel Co. of Canada Ltd., Montreal.
Platform and crossing plank, R. L. Gale—Forest Products, Waterville, Que.
Platform plank, J. M. Argue, Shawville, Que.
Fire extinguishers, Pyrene Manufacturing Co., Toronto, and Walter Kidde and Co. of Canada, Ltd., Montreal.
Furnace fuel oil, Imperial Oil Limited, Montreal.
Survey supplies, Keuffel & Esser Co., Montreal, and Hughes-Owens, Montreal.
Soil loading tests, Construction Borings Ltd., Montreal.
Diversion of existing sewer, Spino Construction Ltd., Montreal.
Locomotive drop table and Diesel locomotive body supports, Whiting Corp. (Canada) Ltd., Toronto.
Loud speaker system, National Sound Service Ltd., Montreal.
Rail anchors, The P. & M. Co., Ltd., Montreal.

Locomotive Types Discussed

In an address before the Ottawa branch of the Engineering Institute of Canada, S. W. Fairweather, of the C.N.R., pointed out the relative advantages of the leading types of locomotives in railway service.

In an address near the end of May before the Ottawa branch of the Engineering Institute of Canada, S. W. Fairweather, Vice President, Research and Development, Canadian National Rys., pointed out that while the Diesel locomotive has had a spectacular development and has ousted the conventional steam locomotive, it holds its premier position by a somewhat precarious margin. Mr. Fairweather, whose subject was "New Developments in Transportation," found the gas-turbine locomotive even more intriguing than the Diesel, and stated that it has a good chance of capturing the field for heavy main line movement. He said:—"A change in relative fuel prices to anything approaching prewar conditions would bring the coal-burning steam locomotive back into the picture—not in its conventional form, it is true, but probably in a form which would burn the lowest grade of run-of-mine coal with efficiency higher than that obtained by the conventional locomotive using the best screened coal."

Mr. Fairweather pointed out that the Canadian railways have such a large investment in steam locomotives that research is indicated as to how this investment may best be salvaged in the change-over period, and stated: —"Research in locomotive design was mostly conducted by the locomotive companies, but now that these companies have changed over to Diesel production such research must be carried on by the railways. The coal industry always has a lively interest in this subject, since railway coal normally constitutes a considerable segment of their business."

All three types of locomotive power have specific advantages for specific types of work, Mr. Fairweather indicated in his address. Selection of type is governed by economic consideration. In this connection, he estimated that the Canadian railways spend at least $130,000,000 annually in obtaining fuel for their locomotives. In the case of the Canadian National System, the expenditure is $70,000,000, amounting to 15% of the total expense of operation.

Mr. Fairweather said that a thermal efficiency of 8% for a conventional modern steam locomotive could be tolerated when the mine price of coal was $2 per ton. Coal in Canada, delivered to the tender, now costs $10 per ton. He stated:—"A thermal efficiency of 8% became an intolerable burden, and engineering talent, in seeking to remedy matters, turned to the internal combustion engine with its higher thermal efficiency. Basically, it is fuel economy which has given the Diesel locomotive such a commanding lead over the steam locomotive that it is probably true that no more conventional steam locomotives will be built."

Mr. Fairweather expressed the belief that the steam locomotive, converted to oil-burning, will make its last stand in Western Canada, where there is a plentiful and cheap supply of bunker "C" oil.

Although the gas-turbine locomotive has a lower thermal efficiency than the Diesel, this is offset by the lower cost of fuel. The Diesel burns refined fuel oil and a considerable amount of expensive lubricating oil, while the former burns bunker "C" oil, the lowest refinery product, and has a negligible consumption of lubricating oil. The gas-turbines's power increases during cold weather, a particular Canadian advantage, and in addition waste heat from the engine is available for heating of passenger trains. Steam for heating the cars, diverted from the steam locomotive, reduces the power in cold weather and is a frequent cause of off-schedule performance in winter time. Diesels must be equipped with an auxiliary automatic steam boiler burning Diesel fuel, an expensive method.

A disadvantage of the gas turbine, however, is high fuel consumption at no load. Thus, for economic operation, it must be kept busy at all times hauling full loads.

Mr. Fairweather concluded:—"The changes which will take place will result from the relentless pressure upon Canada to maintain the position it now holds of furnishing the lowest cost land transportation in the western hemisphere—the lowest, in fact, of any country which approximates to our standard of living. It is no accident that the Canadian National was the first railway on this continent to experiment with Diesel-electric traction. It is but another example of the continuous search for improvement which has in the past produced such remarkable results, and, if continued, will lead to further reductions in transportation costs."

D.A.R. Annual Meeting

At the recent annual meeting of Dominion Atlantic Railway Co., C. E. Jefferson, Vice President, Traffic, Canadian Pacific Ry., was elected a director, to succeed G. A. MacNamara, who was formerly Vice President, Traffic, C.P.R., but who is now President of the Minneapolis, St. Paul and Sault Ste. Marie Rd. N. R. Crump, Vice President, C.P.R. Co., was re-elected President; D. S. Thomson, Vice President, Eastern Region, C.P.R., was re-elected Vice President; C. Niderost, K.C., Assistant Secretary, C.P.R., was re-elected Secretary, and T. H. Moffitt, Assistant Treasurer, C.P.R., was re-elected Treasurer.

Directors re-elected were G. A. Walker, K.C., Chairman of the Board, C.P.R. Co.; L. B. Unwin, Vice President, Finance, C.P.R.; E. H. Spinney, Yarmouth, N.S.,; A. T. O'Leary, Halifax, N.S.; A. A. Dunphy, Kentville, N.S., Manager of the D.A.R.; and G.A. Chase, Port Williams, N.S.

Diesels for O.N.R.

A press report states that the Ontario Northland Ry. has ordered three Diesel-electric locomotives, and that expenditure for a Diesel maintenance shop at North Bay has been authorized.

The 3.4% Rate Increase Judgement

Mention was made in our June issue, pg. 311, of issuance of order 74,-512 by the Board of Tranport Commissioners for Canada, on May 25, authorizing the Railway Association of Canada, on behalf of its member railways, to publish and file tariff schedules, on not less than 15 days' notice, to amend schedules giving effect to permissive freight rate increases which had been authorized by the Board's order 74,034 of March 1 last. It was explained that this action followed hearing by the Board of an application by the Railway Association for a further increase in freight rates, so as to bring the cumulative total of increases authorized to 20%, in place of the cumulative total of 16% which had been authorized by order 74,034 and preceding orders. The Board's hearing of the application was dealt with in our May issue, pg. 248. The judgment supporting order 74,-512 was written by Assistant Chief Commissioner Hugh Wardrope of the Board, and concurred in by Commissioner MacPherson. A separate concurring judgment was written by Commissioner Chase. In this article we present the judgment written by Assistant Chief Commissioner Wardrope, and we hope to publish the judgment written by Commissioner Chase in an early future issue.

At the hearing of the Railway Association application, interested parties were represented as follows:—C. F. H. Carson, K.C., for the Railway Association and the Canadian Pacific Ry.; Hugh E. O'Donnell, K.C., for the Railway Association and Canadian National Rys.; F. C. S. Evans, K.C., K. D. M. Spence and I. D. Sinclair, for the C.P.R.; A. K. Dysart for the C.N.R.; F. D. Smith, K.C., and Rand H. Matheson, for the Transportation Commission of the Maritime Board of Trade; M. A. MacPherson, K.C., for the Province of Saskatchewan; J. J. Frawley, K.C., for the Province of Alberta; Wilson E. McLean, K.C., for the Province of Manitoba; C. W. Brazier, for the Province of British Columbia; S. B. Brown, for the Canadian Manufacturers' Association.

Assistant Chief Commissioner's Judgment

In his judgment, Assistant Chief Commissioner Wardrope stated as in the following.

This is an application by the Railway Association of Canada on behalf of its member companies named in Schedule "A" to the said application under Section 51 of the Railway Act for an Order changing, altering or varying the Order of the Board No. 74034 dated March 1, 1950, in the following manner, namely, that paragraph numbered 1 of the Order be amended by striking out the word "sixteen" in each of the sub-paragraphs of paragraph 1 and substituting therefor the word "twenty." This is to provide that the rates may be increased by 20% instead of the 16% as provided by the above Order pursuant to the Board's Judgment dated March 1, 1950.

This application is made upon the following, among other, grounds:—

(1) That in its said Judgment dated February 28, 1950, the Board erred in not authorizing such a percentage of increase in the said tolls and rates as was required to make good the total revenue deficiency of $29,971,700 determined by the Board in its said Judgment and based upon the adjusted results of railway operations of Canadian Pacific Railway Company for the year 1949 which the Board used as a measure of the needs of all railway companies parties to the said application.

(2) The Board was in error in authorizing an increase of only 16% in said tolls and rates in that such increase would have provided an increase in revenues to Canadian Pacific Railway Company based upon the traffic volume in the year 1949 of only approximately $22,300,000 instead of providing a rate of increase that would have met the total revenue deficiency determined as aforesaid by the Board amounting to $29,971,700.

(3) That the formula adopted by the Board in its Judgment dated September 20, 1949, upon review of its said Judgment dated March 30, 1948, was, according to the Judgment dated February 28, 1950, given full effect to in arriving at the said deficiency of $29,971,700 but the Board nevertheless made the error of further adjusting said deficiency in the manner indicated by the following paragraph of the said Judgment dated February 28, 1950:—"As the majority Judgment of September 20, 1949 reviewed the decision in the 21% Case and determined that the latter should have been 15%, and also incorporated such modification in the 8% interim award, it is necessary to modify the above-stated deficiency accordingly."

(4) That the errors above set forth constituted errors in law in that the Board by its said Order No. 74034, having established a total revenue deficiency for the Canadian Pacific Railway Company of $29,971,700, failed to authorize such an increase in the said tolls and rates as would make good such deficiency and thereby failed to perform its duty under the Railway Act to fix and determine just and reasonable rates and to change and alter rates as changing conditions or cost of transportation required.

The applicants further request that the Board extend the time within which the Applicants may apply to the Board for leave to appeal to the Supreme Court of Canada under Subsection 3 of Section 52 of the Railway Act from the above Judgment and Order until one month after the disposition by the Board of this application.

To arrive at the point where we must decide whether the Board erred as alleged in the above grounds, it will be convenient to retrace shortly some of the past history of the recent general increases in freight rates.

To begin with, by its Judgment of March 30th, 1948, the Board allowed a general increase in freight rates subject to exceptions of 21%. This increase was appealed by the Provinces to the Governor in Council. Following the launching of the appeal the Railways on July 27th, 1948, made further application to the Board for an increase of 20% over and above the 21% already authorized.

By Order in Council P. C. 4678 dated 12th October, 1948, the Board was directed to review the 21% award and it was also recommended that concurrently it will consider the new 20% application.

This was done and resulted in a majority Judgment of the Chief Commissioner, Hon. Mr. Justice Archibald and Mr. Commissioner Chase of September 20th, 1949. This Judgment in reviewing the 21% Case and for the reasons given, concluded that the 21% previously authorized by the Board should have been 15% and also for the reasons given authorized an interim 8% on the 20% application.

The Canadian Pacific Railway Company appealed to the Supreme Court of Canada from the interim increase of 8% on questions of law, leave having been given by the Board. The effect of the Supreme Court Judgment was that the Board should have made a final determination of the 20% application rather than make the interim increase for the particular reasons given.

Consequently for the purpose of making this final determination, the matter was again set down for Hearing at Ottawa on February 2nd, 1950. By this time, to all intents, the complete financial results for 1949 for the Canadian Pacific Railway Company were available; and these were placed before the Board.

Now the 8% interim Judgment was in two parts. Part 1 reviewed the earlier 21% Judgment and concluded that the deficiency in revenues of $30,345,000 arrived at in the 21% Judgment should have been only $21,-405,923.

This reduction resulted from calculations, or a formula as it is commonly referred to, upon which, although the Railways do not accept it, they based their application for a 20% increase upon the Hearing for final determination.

Following this Hearing, my Judg-

ment of March 1st, 1950, issued, concurred in by Mr. Commissioner MacPherson and Mr. Commissioner Chase, authorizing the aforementioned 16% general increase in freight rates.

In this Judgment the calculations arrived at the stated deficiency of $29,971,700, as found on Page 15 of the printed copy. On further consideration, I am still satisfied that this is the correct deficiency. I am further satisfied that my calculations in arriving at this figure were based upon the formula or method adopted in the 8% interim increase Judgment. In other words, at this point I had given full effect to the formula in arriving at the above stated deficiency. This being so, I agree with the Railways' contention that I was in error when at the end of my Judgment I used the following language:—"As the majority Judgment of September 20, 1949 reviewed the decision in the 21% Case and determined that the latter should have been 15%, and also incorporated such modification in the 8% interim award, it is necessary to modify the above-stated deficiency accordingly."

In effect, quite unintentionally, of course, this amounted to a further application of the 8% formula, thus reducing the percentage of increase required to meet the deficiency.

Little remains to be said except that I regret the error and take full responsibility for it.

The Railways allege that the 16% increase together with the 15 cents per ton on coal and coke in 1949 would produce some $22,361,839.00, and that the full 20% plus the 15 cents per ton on coal and coke would produce the sum of $28,954,422. On review I think these figures can be taken as being reasonably correct. Even so, the latter figure of $28,954,422 falls short of meeting the deficiency found of $29,971,700 by $1,017,278. However, the Railways have limited themselves to an application for a 20% increase. In my opinion this should now be allowed. Order varying Order No. 74034 dated March 1, 1950, to go accordingly.

As was intimated in our June issue would be the case, the seven provinces which all along have been opposing rate increases for the railways (all except Ontario, Quebec and Newfoundland) lost no time in lodging an appeal against the Board's judgment and order in the 3.4% case with the Dominion Cabinet. As before recorded, these provinces had appealed against all of the Board's judgments and orders concerned with the Railway Association of Canada application for a 20% increase in freight rates. The appeal against the judgment and order which brought the increases authorized to 16% had been before the Cabinet since March 17, with action on it postponed until the Board of Transport Commissioners had completed hearings and given judgment on the application for the additional 3.4% increase. In lodging their appeal against the judgment and order awarding the 3.4% increase on May 30, the seven provinces, which were in effect extending their appeal to the whole 1949-50 series of rate increases, asked also for suspension of the rate increases authorized by the Board's latest order. The increased rates, provided for by tariffs filed to become effective on 15 days' notice, were scheduled to take effect June 16, and it was calculated that the increases would mean additional revenue of between $12 million and $13 million a year for the railways.

In presenting their appeal, the seven provinces contended that the Board had been in error in granting another flat percentage increase, which, it was claimed, accentuated rate disparities as among various parts of the country. It was further claimed that the Board had erred in other respects, viz.:—

1. That it failed to comply with 1948 Cabinet instructions to conduct an investigation to determine what part of the financial requirements of the Canadian Pacific Railway—the "yardstick" line for setting rates—should be borne by the company's non-rail income.

2. That it had set rates on the basis of allowing the C.P.R. a surplus of $15,235,000 from rail earnings, without applying "any principle" in reaching that figure.

3. That it had failed to determine whether the so-called "other income" (non-rail) of the C.P.R. contained items that should have been classified as rail revenue.

4. That it had not made proper investigation to determine whether or not the C.P.R.'s maintenance charges were excessive for rate-making purposes.

5. That in finding a 1949 "deficiency" in C.P.R. income, the board took into account "abnormal" expenditures in that year and failed to take into account rate increases which became effective in 1949.

6. That in awarding an increase based on the C.P.R. "deficiency," the board "ignored the cardinal principle that rates must be just and reasonable to the user as well as to the railway."

In the Commons, on June 4, it was indicated by Government members that the Government was not disposed to make any changes in the rulings of the Board of Transport Commissioners. In the debate, the opposition leader and others were critical of the Board and of the abilities of its members, but the Board's members were strongly defended by the Minister of Transport, Mr. Chevrier, who gave much historical information and a very complete explanation as to why the function of railway rate regulation had been removed from the Government and placed with the Board of Transport Commissioners. On June 9, the Prime Minister, Mr. St. Laurent, made public letters advising the prime ministers of the seven provinces concerned that the Dominion Cabinet would not consent to ordering a stay in the application of the increased freight rates. He made plain that the Dominion Government's view is that the award of the Board of Transport Commissioners should not be interfered with until argument on the seven provinces' appeal has been heard. He did not indicate when it would be heard.

Rate Subsidies Refused

A communication from Prime Minister Manning of Alberta to Prime Minister St. Laurent advocated the payment of Dominion subsidies to the railways as a means of keeping freight rates down. Mr. Manning's letter stated as follofs:—"Whenever . . . the railways are unable or unwilling to apply an authorized rate increase equably to all parts of the freight-rate structure and to all sections of Canada, then indeed the time has arrived when the public treasury should be called upon to provide the amount of the increase and so prevent the open regional discrimination which otherwise admittedly would result. . . .

"It is our conviction that to call upon Alberta or any other province to pay not only its own share of the rate increase, but also the share which the competitive-rate areas escape paying is an openly unjust action which can be and should be corrected by providing assistance to the railways out of the public treasury."

(In preceding correspondence, Mr. St. Laurent had pointed out that the financial needs of the C.P.R. and C.N.R. must be met by increased revenue or the public treasury, and said he was sure that Alberta would not suggest treasury assistance but, as seen, Mr. Manning indicated that treasury assistance is exactly what he thinks should be provided.)

Mr. St. Laurent tabled his reply to Mr. Manning, emphasizing that the Dominion Government does not see fit to embark on a programme of railway transportation subsidies, and stating in part:—"I have noted your views regarding the payment of a subsidy from the treasury to provide the additional revenue which the board has found the railways require.

"I can only repeat that my colleagues and I, as at present advised, are not prepared to take the responsibility for such a recommendation."

The appeal of the seven provinces against the judgments and orders of the Board of Transport Commissioners for Canada was heard by the Dominion Cabinet on June 24, when three provincial prime ministers and a minister in a fourth provincial government appeared before Prime Minister St. Laurent and 15 Government colleagues in support of the arguments of provincial counsel. Railway counsel opposed the provinces' application. Argument occupied over five hours, and, after its conclusion, Mr. St. Laurent stated that a decision would be given as soon as possible.

Birthdays of Transportation Men

July 16 to August 15

Many happy returns of the day to:—

W. E. ALLISON, Manager, Mail and Baggage Traffic, Canadian Pacific Ry., Montreal, born at St. Eugene, Ont., Aug. 1, 1886.

J. A. ARGO, Freight Traffic Manager, Central Region, Canadian National Rys., Toronto, born at Norval, Ont., July 18, 1892.

S. F. BAKER, Assistant to the Manager, Passenger Service Bureau, C.N.R., Montreal, born at Chelmsford, Essex, England, July 20, 1892.

H. B. BEAUMONT, Steamship Passenger Traffic Manager, C.P.R., Montreal, born there, Aug. 3, 1889.

W. T. BEAVEN, Superintendent, Pacific Division, C.P. Express Co., Vancouver, born at Victoria, B.C., July 29, 1899.

W. C. BECK, Superintendent, C.P.R., Woodstock, NB., born at Almonte, Ont., Aug. 12, 1889.

J. W. BELL, General Agent, Freight Department, C.P.R., Toronto, born there, Aug. 6, 1893.

R. M. BINNS, Supervisor of Traffic Studies, Montreal Tramways Co., born at Toronto, July 25, 1902.

H. M. Blaiklock, Real Estate Agent, Central Region, C.N.R., Toronto, born at Montreal, Aug. 13, 1899.

D. E. BLAIR, B.Sc., M.E.I.C., formerly Vice President and General Manager, now Consulting Engineer, Montreal Tramways Co., born at St. Thomas de Montmagny, Que., July 25, 1877.

W. E. COSTELLO, Canadian Representative, Sutherland International Despatch, Toronto, born at Guelph, Ont,, July 30, 1899.

C. D. COWIE, Vice President and Treasurer, C.N.R., Montreal, born at Insch, Aberdeenshire, Scotland, July 25, 1887.

S. W. CRABBE, General Superintendent, New Brunswick District, C.P.R., Saint John, born at Teeswater, Ont., Aug. 9, 1885.

N. R. CRUMP, Vice President, C.P.R., Montreal, born at Revelstoke, B.C., July 30, 1904.

G. N. CURLEY, General Manager, Eastern Region, C.P.R., Toronto, born at Dunham, Que., July 27, 1898.

T. A. DONOVAN, Assistant to Purchasing Agent, C.P.R., Montreal, born at Canterbury, N.B., August 3, 1897.

W. S. EMERY, Superintendent of Communications, C.P.R., Montreal, born at Saint John, N.B., July 18, 1884.

A. L. ENBORG, Superintendent, Toronto Terminals Ry. Co., born at Port Arthur, Ont., Aug. 10, 1896.

K. M. FETTERLY, Assistant Freight Traffic Manager, C.P.R., Vancouver, born at Toronto, July 20, 1896.

D. McK. FORD, formerly Vice President, Purchases and Stores, C.N.R., Montreal, born at Glasgow, Scotland, July 26, 1883.

F. J. FRYER, Superintendent, Portage Division, C. P.R., Winnipeg, born in England, July 25, 1900.

J. M. GAUTHIER, Freight Traffic Manager, Canadian National Steamships, Montreal, born there, July 25, 1898.

R. A. GORDON, Superintendent, Atlantic Division, C.N.R., Express Dept., Moncton, N.B., born at Summerside, P.E.I., July 31, 1897.

ALF. GREEN, Division Freight Agent, C.N R., Moncton, N.B., born at Montreal, July 28, 1889.

E. L. GUERTIN, General Safety Agent, Prairie and Pacific regions, C.P.R., Winnipeg, born at Aylmer East, Que., July 28, 1910.

S. J. HUNGERFORD, M.E., M.E.I.C., formerly Chairman and President, C.N.R.., born near Bedford, Que., July 16, 1872.

C. W. JOHNSTON, formerly General Passenger Traffic Manager, C.N.R., Montreal, born at Actonvale, Que., July 27, 1879.

D. W. JOHNSTON, Special Freight Traffic Representative, C.P.R., Montreal, born at Irvine, Ayrshire, Scotland, Aug. 11, 1889.

A. L. LAWES, C.B.E., President, The Shipping Federation of Canada, Inc., also President, Montreal Shipping Co. Ltd., born at Liverpool, England, July 17, 1896.

A. B. LEE, Assistant Superintendent, C.N.R., Brandon, Man., born at Ottawa, Ont., Aug. 14, 1893.

J. E. LORD, Assistant General Freight Agent (Rates and Divisions), C.P.R., Winnipeg, born there, July 22, 1896.

A. W. LOUCH, Trainmaster, C.N.R., Brantford, Ont., born at Cultus, Ont., Aug. 7, 1899.

J. O. McKERROW, General Traffic Manager, Abitibi Power & Paper Company Ltd., Toronto, born at White Lake, Ont., Aug. 7, 1887.

C. A. MARTIN, Assistant Superintendent and Road Foreman of Engines, C.N.R., New Carlisle, Que., born at Rimouski, Que., Aug. 10, 1893.

LESTER MERCIER, Superintendent, Railway Terminals, Port of Montreal, National Harbours Board, born at Savannah, Georgia, July 19, 1884.

W. T. MILLS, Shop Foreman, C.P.R., Brandon, Man., born at Winnipeg, August 9, 1911.

J. E. MORAZAIN, formerly General Superintendent, Quebec District, C.N.R., Quebec, Que., born at Wheatland, Que., July 31, 1875.

G. M. NEWBY, General Agent Freight Dept., C.N.R.—Grand Trunk Ry., Kansas City, Mo., born in Missouri, August 7, 1902.

K. H. NEWINGER, General Agent, Canadian Pacific Express Co., Winnipeg, born at Sheridan, Wyo., August 4, 1898.

SENATOR N. M. PATERSON, President, N. M. Paterson & Co., Ltd., and Paterson Steamships, Ltd., Fort William, Ont., born at Portage la Prairie, Man., Aug. 3, 1883.

S. E. PRESTON, General Manager, The Public Utilities Commission of Kitchener, born at Toronto, Aug. 7, 1907.

T. J. PURDIE, Roadmaster ,C.P.R., Golden, B.C., born at Weston, Ont., July 23, 1893.

C. S. PUSHIE, Superintendent, C.N.R., New Glasgow, N.S., born there, August 12, 1885.

J. A. ROGERS, General Manager and Chief Engineer, Central Vermont Ry., St. Albans, Vt., born at Cayuga, Ont., July 19, 1883.

R. A. ROLLO, Assistant Transport Economist, Dept. of Research and Development, C.N.R., Montreal, born there, Aug. 12, 1910.

W. J. SMALLACOMBE, Traffic Manager, Maple Leaf Milling Co., Ltd., Toronto, born at Clinton, Ont., Aug. 11, 1896.

WILLIAM STIRLING, Assistant to the General Freight Claim Agent, C.N.R., Montreal, born at Glasgow, Scotland, Aug. 4, 1897.

LEONARD TAIT, Secretary-Treasurer, London Street Ry., London, Ont., born at Hamilton, Ont., Aug. 9, 1882.

B. L. THOMPSON, Superintendent of Motive Power and Car Equipment, C.N.R., Manitoba District, born at Moncton, N.B., July 20, 1906.

M. D. THOMPSON, General Superintendent, Saskatchewan District, C.N.R., Saskatoon, born at Parkhill, Ont., Aug. 9, 1885.

R. V. TOMBE, Superintendent, Communications, C.P.R., Moose Jaw, Sask., born at Clonsilla, County Meath, Ireland, Aug. 6, 1898.

ROCH TREMBLAY, LL.L., Vice President and Secretary, Provincial Transport Co., born at Montreal, July 31, 1908.

N. A. WALFORD, General Superintendent, Southern Ontario District, C.N.R., Toronto, Ont., born at Walkerton, Ont., July 31, 1891.

J. E. WICKETT, Passenger Traffic Representative, C.N.R., Vancouver, born at Belleville, Ont., August 11, 1902.

J. W. WILKES, Superintendent, C.P.R., Moose Jaw, Sask., born at Skipton, Yorkshire, England, July 18, 1899.

A. R. WILSON, Superintendent, St. Thomas Division, C.N.R., St. Thomas, Ont., born at Yarmouth, N.S., Aug. 11, 1898.

Freight and Car Loadings

Railway revenue freight loadings in Canada in May were approximately 9,251,000 tons, compared with 8,915,000 tons in May, 1949, and with 7,691,000 tons in April this year. On the basis of monthly average loadings in the years 1935-1939 being taken as 100, the index number for railway revenue freight loadings in May was 218.4, compared with 210.4 in May last year and with 196.9 in April this year.

Cars loaded with revenue freight on Canadian railways in May were approximately 338,000, compared with 313,000 in May last year and with 292,000 in April this year. The index number for car loadings in May was 167.5, compared with 154.9 in May last year and with 148.8 in April this year.

Railway revenue freight loadings in the first five months of this year were 40,749,000 tons, compared with 43,127,000 in the first five months of 1949, 43,496,000 in that part of 1948, 41,022,000 in that part of 1947, 38,491,000 in that part of 1946, 41,025,000 in that part of 1945, 42,646,000 in that part of 1944 and 38,149,000 in that part of 1943.

Unusual Freight Shipment

The accompanying illustration shows a recent shipment which faced the Canadian National Rys. with an unusual freight movement problem. The lading is a huge spider casting which was moved by the C.N.R. from the Canadian Westinghouse Co., Ltd., plant, Hamilton, Ont., to the Hydro-Electric Power Commission of Ontario at Cameron Falls, Ont. Because of the shipment's bulk, the movement was under slow orders. The casting was specially braced, as shown in the illustration, to hold it securely, and the bags shown at the ends of the depressed center flat car were filled with rock ballast (a total of 15 tons) to bring down the center of gravity of the load. The casting weighs 52 tons.



Loading of 52-ton Spider Casting on Depressed Center Flat Car for Movement Via C.N.R. from Hamilton, Ont., to Cameron Falls, Ont.

Results of Soo Line Operation in 1949

While Minneapolis, St. Paul and Sault Ste. Marie Rd. gross declined by over $1½ million from the record high of 1948, chiefly due to freight traffic decrease, operating expenses were reduced also, and reduction in net income was restricted to $621,940. A further dividend was paid April 1, the fifth since reorganization.

The annual report of the Minneapolis, St. Paul and Sault Ste. Marie Rd. Co., submitted to shareholders on behalf of the directors over the signiture of G. A. MacNamara, President, records a decrease of $1,579,465 in gross earnings, compared with those of 1948, due mainly to a substantial decrease in freight tonnage handled,



G. A. MacNamara,
President, Minneapolis, St. Paul and Sault Ste. Marie Rd. Co.

offset only in part by freight rate increases which had been authorized. Operating expenses and taxes decreased by a total of $1,274,790, and, after deducting all other expenses including interest and sinking fund requirements, there remained net income of $1,148,481 in 1949, a decrease of $621,940 from that in 1948.

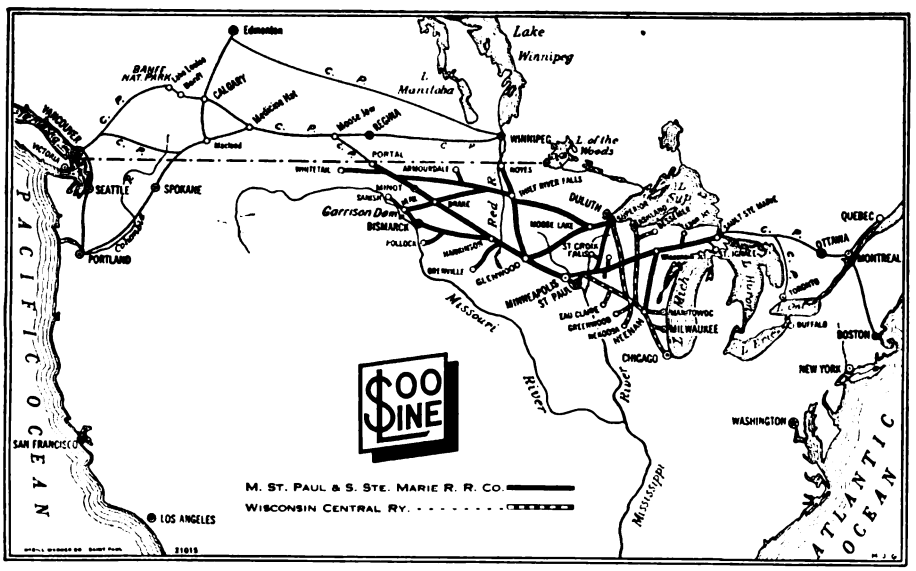
Income Account.—The income account figures for the company for the years 1949 and 1948 appear in the accompanying table 1.

Table 1— Soo Line Income Account, 1949 and 1948

	Year 1949	Year 1948	Increase or Decrease
Railway Operating Revenues:			
Freight Revenue	$ 32,042,081	$ 33,318,449	$ 1,276,368
Passenger Revenue	1,351,907	1,457,571	105,664
All Other Revenue	2,036,980	2,234,413	197,433
Total Railway Operating Revenues	35,430,968	37,010,433	1,579,465
Railway Operating Expenses:			
Maintenance of Way and Structures	7,112,077	7,254,322	142,245
Maintenance of Equipment	6,072,726	6,255,089	182,363
Traffic	780,436	749,795	30,641
Transportation	14,455,315	14,945,537	490,222
Miscellaneous	220,888	209,634	11,254
General	1,007,430	1,054,678	47,248
Total Railway Operating Expenses	29,648,872	30,469,055	820,183
Net Revenue from Railway Operations	5,782,096	6,541,378	759,282
Railway Tax Accruals	3,180,924	3,635,531	454,607
Railway Operating Income	2,601,172	2,905,847	304,675
Equipment Rents—Net Dr.	454,259	201,916	252,343
Joint Facility Rents—Net Dr.	215,437	193,592	21,845
Net Railway Operating Income	1,931,476	2,510,339	578,863
Other Income	220,920	258,434	37,514
Total Income	2,152,396	2,768,773	616,377
Miscellaneous Deductions from Income	22,548	16,592	5,956
Income Available for Fixed and Contingent Charges	2,129,848	2,752,181	622,333
Fixed Charges:			
Rent for Leased Road and Equipment	1,685	1,685	
Interest on Unfunded Debt	1,678	6,937	8,615
Amortization of Discount on Funded Debt	1,925	1,939	14
Total Fixed Charges	5,288	3,313	8,601
Income after Fixed Charges	2,124,560	2,755,494	630,934
Contingent Charges:			
Interest on First Mortgage Bonds	283,658	284,388	730
Interest on General Mortgage Bonds	591,776	600,040	8,264
Sinking Fund—General Mortgage	100,645	100,645	
Total Contingent Charges	976,079	985,073	8,994
Net Income	$ 1,148,481	$ 1,770,421	$ 621,940

	Year 1949	Year 1948
Times Earned:		
Interest on First Mortgage Bonds	7.5	9.7
Interest on General Mortgage Bonds	3.1	4.1
Sinking Fund—General Mortgage	12.4	18.6
Net Income:		
Per share	$1.60	$2.46

Sources of Revenue.—The sources of Soo line operating revenues in 1949 and 1948, and the amounts derived from each, were as set forth in the accompanying two column table 2. As seen, total freight revenue decreased from $33,318,449 in 1948 to $32,042,081 in 1949, or by $1,276,368, or 3.83%. There were substantial decreases in the revenue from the products of mines and also from the products of forests. Because of the greatly increased production of oil in the Canadian western fields, the movement of westbound crude petroleum was nearly eliminated in 1949, with a drop in revenue of from $728,078 in 1948 to $76,773 last year. Strikes affecting the movement of coal resulted in a revenue reduction of $109,549. Traffic received from Canadian points of origin decreased, chiefly in lumber, shingles and lath, due to decline in general industrial production and decrease in shipments of pulpwood to Wisconsin paper mills. The management estimated that increases in freight rates which became effective January 11 and September 1, 1949, produced additional revenue of $1,525,000, but the benefits of these rate increases were offset largely by the reduction in revenue freight tonnage.



Soo Line and Wisconsin Central Lines

An agreement with the Canadian Pacific Rly. to interchange eastbound traffic at Portal instead of Noyes, effective May 1, 1948, was ammended effective January 1, 1949, to give the Soo Line an increase in the rate per car for the longer haul, and total compensation for performing the longer haul in 1949 was $433,744, compared with $248,149 in 1948, an increase of $185,595.

Revenue from passengers decreased from $1,457,571 in 1948 to $1,351,907 last year, or by 7.25%; practically all of this decrease was caused by reduction in the number of passengers handled in the final quarter of last year.

With mail space rates the same in 1949 as in 1948, mail revenue declined from $885,635 in 1948 to $879,972 last year, or by 0.64%, due to some reduction in space contracted for by the Postal Department.

Express revenue last year, $236,896, fell below that of 1948 by $83,889, a decrease of 26.15%. This was brought about chiefly by diversion of the traffic to the U.S. Post Office, due to the fact that parcel post rates were not increased in keeping with increased express rates. All other revenues decreased from $1,027,993 in 1948 to $920,112 last year, or by 10.49%. Small increases in switching, dining and buffet car service revenues were more than offset by reductions in milk, sleeping car, demurrage and other miscellaneous revenues.

Operating Expenses.—The Soo Line operating expenses for 1949 and 1948, classified in accordance with the principal accounts, are given as part of the accompanying two-column table 1. The company's annual report records the expenses in great detail, the outgo in each individual account in each group being stated for both 1949 and 1948, with the amounts and percentages of the increase or decrease in 1949 shown. Total railway operating expenses were reduced from $30,469,055 in 1948 to $29,648,872 last year, a decrease of $820,183, or 2.69% The outlay on maintenance of way and structures decreased by $142,245, or 1.96%. While rail was laid in the year 1949 to the extent of 6.06 track miles more than in 1948, tie replacements were reduced from 422,218 in 1948 to 354,786.

The outlay on maintenance of equipment was $182,363, or 2.92%, smaller last year than in 1948. Wage increases and inauguration of the 40-hour week increased the outgo by approximately $394,000; but, on the other hand, cost of locomotive repairs was reduced through the retirement of 11 steam locomotives, made possible by the acquisition of eight new Diesel-electric locomotives. Traffic expenses increased $30,641, or 4.09%, but transportation expenses were cut by $490,222, or 3.28%.

Because of decline in revenue freight tonnage compared with that of 1948, and also because of increased use of Diesel-electric locomotives, freight train miles operated decreased substantially (by 9.34%) and this resulted in savings in train and yard expenses. Diesel-electric locomotives hauled 46% of the freight train miles in 1949, moving 60% of the total revenue freight tonnage; in 1948, they hauled 32% of the freight train miles and 43% of the revenue freight tonnage.

Tax accruals decreased from $3,635,531 in 1948 to $3,180,924, or by 12.5%. On the other hand, there was an equipment rental debit of $454,259 in 1949, compared with one of $201,916 for 1948, an increase of 124.97%. In addition to an increase in the net charges on equipment interchanged with foreign lines, the freight car rental per diem rate was increased on November 1 last from $1.50 to $1.75; the $1.50 rate had been effective since September 1, 1947. The joint facility rents debit was $215,437 last year, compared with $193,592 in 1948, an increase of 11.28%.



One of Five 3,000 H.P., Two-unit, Diesel-electric Road Freight Locomotives Built by General Motors Corp. Electro-Motive Division for the Soo Line in 1947 and 1948.

Property Investment.—There was a net increase of $3,946,076 in the investment in road and equipment last year. Additions and betterments were $4,817,264, and retirements $871,188. Prominent among the additions and betterments were:—Purchase of two Diesel-electric 3,000 h.p. road freight locomotives, $627,419; purchase of four Diesel-electric 1,500 h.p. road-switching locomotives, $574,115; purchase of two Diesel-electric 1,000 h.p.



New Rolling Stock on the M. St. P. and S.S. M., Built by Company Forces
At the left is shown a 41 ft., 50-ton gondola, 100 of which were built by company forces last year, and at the right appears one of 235 50-ton box cars, 40 ft. 6 in. long, also built by company forces in 1949.

switching locomotives, $196,688; construction of 235 box cars, $1,029,300; construction of 100 gondola cars, $449,915; purchase of 15 covered hopper cars, $99,342.

Debt Reduction.—Soo Line long term debt was reduced by $219,600 during the year. First mortgage bonds in principal amount of $23,000 were bought by the company, and were being held in the treasury, and general mortgage bonds in principal amount of $196,600 were acquired and cancelled by the mortgage trustee through operation of the sinking fund. Interest accruals were reduced by $8,994, compared with 1948. Since the company was reorganized on September 1, 1944, first mortgage bonds outstanding were reduced by $1,742,700, or by 21.64%, and general mortgage bonds by $5,142,600, or 25.55%, to the end of 1949.

Dividends.—On February 18 this year the Soo Line directors declared a dividend of $1 a share on the outstanding stock, payable April 1 to shareholders of record on March 15, this dividend having required $719,-104. This is the fifth consecutive year in which a dividend has been declared, making total dividends since reorganization, $4,674,176.

Wisconsin Central Ry.—The Soo Line continued to operate the Wisconsin Central properties as agent for the trustee, with the approval of the court. The reorganization proceeding for the Wisconsin Central is still pending, and further hearings on a plan for reorganization were held by the Interstate Commerce Commission during last year.

Steam and Diesel Operation.—The company's report includes much statistical material, and freight train figures are shown to provide a comparison as between steam and Diesel operation. Gross tonnage per freight train, steam, last year, was 1,425, and Diesel, 2,533. Fuel consumption per thousand gross ton miles with steam locomotives was 129 lb. of coal, with Diesel locomotives. 1.6 gall. of fuel oil, and the cost of fuel for steam locomotives in freight train service was 52.87c per 1,000 gross ton miles, compared with only 15.46c for Diesel-electric locomotives. The average freight train speed with steam locomotives was 15.8 miles per hour, and with Diesel-electric locomotives 20.8 miles per hour. Gross ton miles per freight train hour with steam locomotives were 22,509, and with Diesel-electric locomotives, 52,726. There were 1,600,254 steam locomotive miles, and 1,328,968 Diesel-electric locomotive miles in revenue freight service on the Soo Line last year.

Following are Soo Line freight traffic statistics for 1949:—Freight revenue, $32,042,081; total carloads handled, 266,428; revenue freight tonnage, 9,795,977; revenue freight ton mileage, 2,424,071,063; freight revenue per mile of road, $9,939; freight train miles per mile of road, 895; freight train car miles per mile of road, 40,-196; revenue freight ton mileage per mile of road, 751,899; freight revenue per freight train mile, $11.11; loaded freight cars per freight train mile, 27.9; empty freight cars per freight train mile, 16.3; average number of cars per train, 44.2; average revenue tonnage per train, 840.4; gross ton miles per freight train mile, 1,935; freight revenue per loaded freight car mile, 39.9c; average car loading, 30.2 tons; revenue per ton of freight handled, $3.27; average receipt per revenue ton mile, 1.32c; average revenue freight haul, 247.5 miles.

Classification of Revenue Freight Tonnage.—Of the total revenue freight tonnage handled in 1949, 92,-736 tons was l.c.l. freight, and the carload freight, 9,703,241 tons, was made up as follows:—Grain, 1,608,587 tons; all other products of agriculture, 401,737 tons; animals and products, 146,150 tons; products of mines, 3,-783,741 tons; products of forests, 1,-460,441 tons; manufactures and miscellaneous freight, 2,302,585 tons.

Grain provided 16.42% of the revenue tonnage and 31.06% of the freight traffic revenue; other products of agriculture, 4.1% of the tonnage and 4.91% of the revenue; animals and products, 1.49% of the tonnage and 3.49% of the revenue; products of mines, 38.62% of the tonnage and 14.52% of the revenue; products of forests, 14.91% of the tonnage and 10.31% of the revenue; manufactures and miscellaneous freight, 23.51% of the tonnage and 31.28% of the revenue, and l.c.l. freight, 0.95% of the tonnage and 4.43% of the revenue.

Table 2—Soo Line Operating Revenues, 1949 and 1948

	Year 1949	Year 1948	Increase or Decrease Amount	Per Cent
Freight Revenue:				
Products of Agriculture:				
Grain	$ 9,952,674	$ 9,636,844	$ 315,830	3.28
Flour	81,603	87,404	5,801	6.64
Potatoes	325,592	385,824	60,232	15.61
All Other	1,165,722	1,068,245	97,477	9.12
Total	11,525,591	11,178,317	347,274	3.11
Animals and Products:				
Cattle and Calves	539,957	531,788	8,169	1.54
Hogs	32,692	25,705	6,987	27.18
Butter	124,782	87,569	37,213	42.50
All Other	420,969	459,447	38,478	8.37
Total	1,118,400	1,104,509	13,891	1.26
Products of Mines:				
Bituminous Coal	1,039,070	1,148,619	109,549	9.54
Lignite Coal	670,966	708,854	37,888	5.34
Iron Ore	1,308,882	1,471,809	162,927	11.07
Stone and Rock	539,241	348,120	191,121	54.90
Petroleum Crude	76,773	728,078	651,305	89.46
All Other	1,016,907	880,467	136,440	15.50
Total	4,651,839	5,285,947	634,108	12.00
Products of Forests:				
Posts, Poles and Piling	273,584	246,350	27,234	11.06
Pulpwood	991,494	1,340,520	349,026	26.04
Lumber, Shingles and Lath	1,636,699	2,077,007	440,308	21.20
All Other	401,694	555,606	153,912	27.70
Total	3,303,471	4,219,483	916,012	21.71
Manufacturers and Miscellaneous:				
Gasoline and Petroleum Oils, refined	1,112,329	1,210,104	97,775	8.08
Fuel and Road Oils, etc.	569,143	536,284	32,859	6.13
Manufactured Iron and Steel	477,433	361,389	116,044	32.11
Cement, building	466,547	416,650	49,897	11.98
Agricultural Implements and Parts	670,318	546,867	123,451	22.57
Fertilizers	142,282	152,096	9,814	6.45
Newsprint Paper	1,013,399	962,841	50,558	5.25
All Other	5,569,888	5,614,055	44,167	.79
Total	10,021,339	9,800,286	221,053	2.26
Less-than-carload Freight	1,421,441	1,729,907	308,466	17.83
Total Freight Revenue	32,042,081	33,318,449	1,276,368	3.83
Passenger	1,351,907	1,457,571	105,664	7.25
Mail	879,972	885,635	5,663	.64
Express	236,896	320,785	83,889	26.15
Milk	110,627	161,370	50,743	31.45
Other Passenger-train Service	46,486	88,156	41,670	47.27
Switching	101,813	99,682	2,131	2.14
Demurrage	59,146	87,388	28,242	32.32
Telegraph and Telephone	55,414	57,361	1,947	3.39
Ore Dockage Charges	153,923	168,422	14,499	8.61
Joint Facility—Net	180,820	173,356	7,464	4.31
All Other	211,883	192,258	19,625	10.21
Total Operating Revenue	$35,430,968	$37,010,433	$ 1,579,465	4.27

Passenger Traffic Figures. — As above noted, Soo Line passenger revenue decreased from $1,457,571 in 1948 to $1,351,907 last year, and total passenger service train revenue decreased from $2,913,517 in 1948 to $2,-625,888. There were 318,703 revenue passengers carried last year, compared with 369,774 in 1948, while revenue passenger mileage came down from 77,653,721 in 1948 to 71,593,279 last year. Following are passenger statistics for 1949:—Passenger revenue per mile of road, $419; total passenger service train revenue per mile of road, $814; passenger train miles per mile of road, 589; passenger train car miles per mile of road, 3,559; revenue passenger mileage per mile of road, 22,207; passenger revenue per train mile, 71c; passenger service train revenue per train mile, $1.38; cars per train, 6; passengers per train, 37.8; passenger revenue per car mile, 25.4c; passengers per car, 13.4; revenue per passenger, $4.24; revenue per passenger mile, 1.89c; average passenger journey, 224.6 miles.

Figures on Total Traffic.—The following 1949 figures apply to total traffic:—Train miles per mile of road, 1,483; car miles per mile of road, 43,-754; operating revenue per mile of road, $10,990; operating expenses per mile of road, $9,196; net operating revenue per mile of road, $1,793; operating revenue per train mile, $7.41; operating expenses per train mile, $6.20; net operating revenue per train

mile, $1.21.

Equipment.—At the end of 1949, the Soo Line had 122 steam locomotives in road service and 13 steam switching locomotives; 12 3,000 h.p. double unit Diesel-electric road freight locomotives; 12 1,500 h.p. single unit Diesel-electric road switchers, and seven Diesel-electric switching locomotives.

There were 8,384 freight train cars, as follows:—Automobile, 576; ballast, 173; box, 4,819; caboose, 125; flat, 366; gondola, 597; covered hopper, 22; open top hopper, 200; ore, 1,107; stock, 395; tank 4. There were 138 passenger train cars, including 29 baggage and 28 mail and express; 240 work equipment cars, and 36 units of miscellaneous equipment.

Mileage.—At the end of 1949, the company was operating over 3,135.21 miles of road solely owned; 23.74 miles owned jointly with other railways; 13.15 miles of the Wisconsin Central on which it had trackage rights; 19.37 miles on other railways on which it had trackage rights jointly with the Wisconsin Central, and four other sections of road aggregating 32.46 miles. This made the total Soo Line mileage operated 3,223.93. The mileage operated as agent for the Wisconsin Central trustee was 1,51.37, less 78.07 miles common to both the Soo Line and the Wisconsin Central, making the total system road mileage 4,197.23. Soo Line and Wisconsin Central lines are shown on the accompanying map.

Officers.—The Soo Line officers, in addition to President MacNamara, are: —Vice President and General Counsel, J. L. Hetland; Vice President, C. S. Pope; Secretary and Assistant to the President, J. C. Peterson; Treasurer, C. H. Bender; Assistant Secretary, M. J. Tracy; Assistant Treasurer, W. Leicester; General Traffic Manager, W. W. Kremer; Comptroller, J. B. Donnelly; General Manager, R. L. Simpson; Industrial and Real Estate Commissioner, R. S. Claar.

Upward Trend in Car Loading

In the four weeks ended June 10 this year, there were 308,764 cars of revenue freight loaded on Canadian railways, an increase of 22,323 cars over the number loaded in the corresponding four weeks in 1949.

With an increase in loadings of grain in three of the four weeks in the four week period ended June 10 this year, an increase in numbers of cars loaded with revenue freight on Canadian railways was recorded in each of the four weeks, compared with corresponding 1949 weeks, according to figures furnished by the Dominion Bureau of Statistics, Transportation Division. Details of loadings in the four weeks this year are presented in the accompanying page-wide table; the division between Eastern and Western Canada is at Fort William, Ont. In the four-week period this year, there were 308,764 cars loaded, compared with 286,441 in the 1949 period, an increase of 22,323.

Week Ended May 20

Cars loaded with revenue freight on Canadian railways in the week ended May 20 this year totalled 76,989, compared with 73,550 in the corresponding 1949 week. There was a decrease of from 5,406 cars to 4,978 cars in grain loadings, but an increase of from 1,368 cars to 1,568 cars in live stock loadings. Coal loadings were up from 4,790 cars in the week last year to 5,451, but pulpwood loadings declined from 2,854 cars to 1,823. Loadings of lumber, lath and shingles were up from 3,489 cars in the 1949 week to 4,265 cars. Loadings of miscellaneous freight increased slightly, viz., from 5,807 cars in the week last year to 5,892, but those of merchandise, l.c.l., decreased from 18,844 cars to 18,049.

Week Ended May 27

In this week, total loadings were 72,773 cars, compared with 66,157 cars in the corresponding 1949 week. Grain loadings increased from 4,847 cars in the 1949 week to 5,222 in the week this year, and live stock loadings were up from 1,272 cars to 1,462. Coal loadings decreased from 5,064 cars to 4,637. Pulpwood loadings decreased from 2,629 cars in the week last year to 2,542, but loadings of lumber, etc., were up from 3,252 cars to 4,380. Loadings of miscellaneous freight increased from 5,072 cars in the week last year to 5,335, but those of merchandise, l.c.l., decreased from 15,965 to 15,589.

Week Ended June 3

Total loadings in the week ended June 3 this year were 78,985 cars, compared with 73,970 cars in the corresponding 1949 week. Grain loadings were up from 4,850 cars in the week last year to 5,996, but live stock loadings decreased from 1,604 cars to 1,552.

Week Ended:—

	May 20			May 27			June 3			June 10		
	All Can.	East Can.	West Can.	All Can.	East Can.	West Can.	All Can.	East Can.	West Can.	All Can.	East Can.	West Can.
Grain	4,978	1,753	3,225	5,222	1,977	3,245	5,996	2,098	3,898	6,318	2,100	4,218
Grain Products	2,399	1,258	1,141	2,285	1,333	952	2,345	1,249	1,096	2,181	1,147	1,034
Hay and Straw	185	134	51	118	82	36	112	89	23	85	59	26
Fruits, fresh	52	34	18	26	22	4	36	27	9	56	29	27
Vegetables, fresh or green	833	779	54	602	569	33	648	621	27	480	458	22
Other Agricultural Products	130	98	32	82	68	14	113	88	25	147	93	54
Live Stock	1,568	753	815	1,462	664	798	1,552	599	953	1,484	565	919
Butter, Cheese, Eggs	88	39	49	109	47	62	151	72	79	139	50	89
Fresh Meats & Packing House Products (edible)	429	196	233	469	193	276	421	189	232	381	155	226
Other Packing House Products	44	26	18	44	26	18	62	38	24	46	31	15
Other Animal Products	74	54	20	96	64	32	120	57	63	66	47	19
Coal	5,451	3,688	1,763	4,637	3,307	1,330	5,416	3,639	1,777	5,150	3,403	1,747
Coke	566	468	98	568	476	92	653	549	104	629	522	107
Ores and Concentrates												
Base Bullion, Matte, Pig & Ingot (non-ferrous metals)	4,358	2,900	1,458	4,448	2,625	1,023	3,881	2,503	1,378	4,506	2,854	1,652
Sand, Stone, Gravel, Plaster, Lime Brick, Cement, Sewer pipe, Tile	713	528	185	630	490	140	560	366	194	728	514	214
Other Mine Products	5,759	3,880	1,879	5,146	3,635	1,511	5,458	3,890	1,568	5,494	3,741	1,753
Logs, Piling, Cordwood	1,742	1,615	127	2,121	1,996	125	2,167	1,998	169	2,167	1,987	180
Pulpwood	128	255	873	1,062	320	742	1,243	286	957	1,246	363	883
Lumber, Lath, Shingles	1,823	1,767	56	2,542	2,441	101	3,063	2,904	159	3,490	3,313	177
Other Forest Products	4,265	2,511	1,754	4,380	2,768	1,612	4,873	2,931	1,942	5,248	3,136	2,112
Gasoline, Petroleum Oils & Pdts.	455	371	84	462	385	77	520	419	101	520	417	103
Crude Oil	4,332	2,916	1,416	4,501	2,905	1,596	4,583	3,014	1,569	4,626	3,058	1,568
Sugar	998	3	995	1,195	8	1,187	1,224	6	1,218	1,317	4	1,313
Iron & Steel Pdts. (manufactured)	347	250	97	402	322	80	364	265	99	331	239	92
Implements, Tractors, Machinery, Boilers	1,785	1,523	262	1,400	1,225	175	1,824	1,667	157	1,853	1,657	196
Autos, Trucks and Parts	1,065	671	394	761	555	206	1,126	915	211	781	619	162
Fertilizers	1,432	1,326	106	1,476	1,356	120	1,425	1,295	130	1,388	1,309	79
Woodpulp and Paper	1,260	929	331	928	570	358	680	422	258	459	267	192
Canned Food Products	4,343	3,819	524	4,293	3,779	514	4,173	3,655	518	4,310	3,803	507
Other Products of Manufactures and Miscellaneous	446	284	162	382	270	112	482	361	121	481	370	111
Merchandise, L.C.L.	5,892	4,569	1,323	5,335	4,193	1,140	6,016	4,890	1,126	5,817	4,565	1,252
Total Revenue Cars Loaded	18,049	12,684	5,365	15,589	11,125	4,464	17,698	12,772	4,926	18,093	13,149	4,944
In corresponding week of 1949	76,989	52,081	24,908	72,773	49,798	22,975	78,985	53,874	25,111	80,017	54,024	25,993
Received from Connections	73,550	50,075	23,475	66,157	45,159	20,998	73,970	50,668	23,302	72,764	49,626	23,138
	30,331	27,913	2,418	32,404	29,902	2,502	31,285	28,809	2,476	31,072	28,239	2,833

Coal loadings were up from 5,287 cars in the 1949 week to 5,416, but pulpwood loadings decreased from 3,384 cars to 3,063. Loadings of lumber, etc., increased from 3,898 cars to 4,873. Loadings of miscellaneous freight were up from 5,602 cars in the 1949 week to 6,016, but those of merchandise, l.c.l., declined from 18,586 cars to 17,698.

Week Ended June 10

Total loadings in the week ended June 10 this year were 80,017 cars, compared with 72,764 cars in the corresponding week last year. Grain loadings increased from 4,718 cars in the 1949 week to 6,318 cars, but livestock loadings were off from 1,703 cars to 1,484. Coal loadings increased from 4,463 cars to 5,150. Pulpwood loadings, for the first time in a long period, registered an increase, having been up from 3,374 cars in the 1949 week to 3,490. Loadings of lumber, etc., were up from 3,945 cars in the 1949 week to 5,248. Loadings of miscellaneous freight were up from 5,603 cars in the week last year to 5,817, but those of merchandise, l.c.l., declined slightly, viz., from 18,187 cars in the 1949 week to 18,093.

Cumulative Totals of Loadings

The cumulative total of cars loaded with revenue freigth on Canadian railways to June 10 was 1,632,372, compared with 1,663,806 in the corresponding part of 1949 and with 1,703,513 in the corresponding part of 1948, the corresponding figures for Eastern Canada being 1,100,434, 1,100,151 and 1,157,276, and, for Western Canada, 531,938, 563,655 and 546,237.

The cumulative total of grain loadings to June 10 in all of Canada was 116,314 cars, compared with 146,750 in the corresponding part of 1949 and with 113,555 in the corresponding part of 1948, the corresponding figures for the cumulative totals of live stock loadings being 35,297, 35,208 and 45,768; of coal loadings, 138,041, 126,528 and 126,595; of pulpwood loadings, 67,659, 96,663 and 132,398; of loadings of lumber, lath and shingles, 81,109, 70,332 and 82,223; of loadings of miscellaneous freight, 118,760, 115,850 and 123,568; of loadings of merchandise, l.c.l., 382,140, 413,907 and 420,899.

Cars Received from Connections

To June 10 this year, the Canadian railways received 699,866 cars of revenue freight from connections, compared with 729,090 in the corresponding part of 1949 and with 815,590 in the corresponding part of 1948.

Fairbanks-Morse Diesels to Be Built in Kingston

Following favorable action by Canadian Locomotive Co., Ltd., shareholders on June 5, on the deal outlined in our June issue, the Canadian Locomotive Co., Ltd., plant at Kingston, Ont., is being organized for the construction of Fairbanks-Morse Diesel-electric locomotives.

In our June issue, pg. 309, we gave particulars of the proposals by which Fairbanks, Morse and Co., Chicago, and the Canadian Fairbanks-Morse Co., Ltd., were to secure important participation in Canadian Locomotive Co., Ltd., such proposals being scheduled for ratification by the Canadian Locomotive Co., Ltd., shareholders at a meeting scheduled to be held on June 5. Immediately after the meeting, the following statement was issued at Kingston:—

"Canadian Locomotive Company stockholders at a meeting today, in effect, gave control of all operations of the company to Fairbanks, Morse and Co., Chicago, Illinois, and The Canadian Fairbanks-Morse Company, Limited, of Montreal. New directors of the company are R. H. Morse, Jr., and L. A. Keeler, of Chicago, and G. M. Niven, President of The Fairbanks-Morse Company, Montreal.

"Immediately following the stockholders' meeting, directors elected R. H. Morse, Jr., President and Chief Executive of the company, which is the oldest railroad steam locomotive builder in Canada. Mr. Morse is President of Fairbanks, Morse and Co. and Chairman of the Executive Committee of The Canadian Fairbanks-Morse Company. Mr. J. J. Jarrell will continue as Vice-President and Director of the Locomotive Company.

"It is expected Diesel locomotives which will be entirely new to the company will be in production within a short time. Fairbanks, Morse officials and engineers have already arrived here to assist the company in preparing manufacturing operations. The Canadian Locomotive Company will retain its corporate identity and will continue to manufacture its regular line of production, according to Mr. Morse."

Background of Fairbanks, Morse and Company

In the United States, Fairbanks, Morse and Company started operations in 1830 with the invention of the platform scale. The company pioneered the development of steam and gasoline engines and railway equipment, including railway water stations, coaling stations, motor cars, velocipede cars, hand cars, etc. Later developments included Diesel engines, electric motors and pumps of all kinds. During the war the company built millions of horsepower of Diesel engines for war vessels for the U.S. Govern-



A 4,800 H.P. Two-unit, High Speed Locomotive for Passenger Service, with Each Unit Powered by a Fairbanks-Morse 12-cylinder, 2,400 h.p., Opposed-piston Diesel Engine.

ment. Submarines, destroyers and minesweepers were equipped with the company's engines, and a great new plant at Beloit, Wis., was built for the production of the opposed piston Diesel, which engine has been operating with outstanding success and efficiency in Diesel Locomotive service in the U.S.A. for a number of years.

In Canada, the Fairbanks-Morse organization has been active since the beginning of the century when the present Sherbrooke plant was built to manufacture the well-known line of Fairbanks-Morse scales. Today, the Canadian company has fifteen branch offices from coast to coast, distributing not only the products manufactured by Fairbanks, Morse & Co., but also a wide line of machinery, industrial supplies, household appliances and farm equipment.

Background of the Canadian Locomotive Company Limited

As Canada's oldest manufacturer of locomotives, the Canadian Locomotive Company, Limited, Kingston, Ont., is this year celebrating the hundredth anniversary of its establishment, with the record of more than two thousand steam locomotives behind it.

Into the colourful century since their modest beginnings, the Canadian Locomotive Company (more commonly known to railroad men as "Kingston") has crowded many notable achievements. Its history has been closely linked with Canadian railway development. Today, although busily engaged in turning out a large export order of steam locomotives for the State Railways of India, the company sees Diesel production in the offing and is making preparations accordingly.

Canadian Locomotive is no newcomer to Diesel production. In 1929 it built the famed Canadian National Railway Number 9000, the first road Diesel-electric locomotive produced in Canada. The 9000 was essentially an experimental locomotive, consisting of two units of 1,330 H.P. each, which preceded by fully seventeen years the first widespread use of Diesel-electric units on the railways of this continent. Since 1929 the company has built a number of Diesel switchers and industrial units of various sizes, so that the transition to road Diesel construction will be smoothly accomplished.

The F-M Opposed-Piston Diesel Engine

In 1933, Fairbanks-Morse engineers undertook to design and build a new kind of internal combustion engine, one which would join successfully the opposed-piston idea, 56 years old, with the principle of Diesel combus-



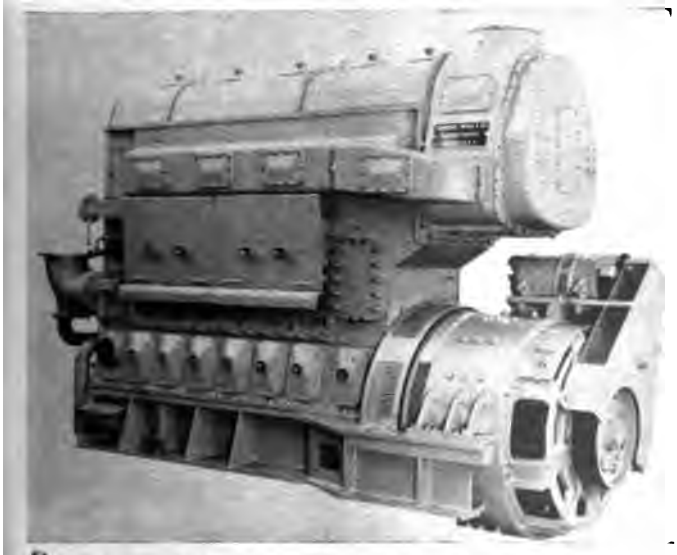
J. J. Jarrell,
Vice-President, Canadian Locomotive Co., Ltd.

tion, 42 years old. The company's engineers had been building other internal combustion engines since 1893, and other Diesel engines since 1914. After design of the new type of engine was embarked upon in 1933, several years of development were required before the engineers were satisfied that the new Diesel was ready to take its place in the company's line. The first engines of the new type, placed in service more than 10 years



R. H. Morse, Jr.,
President, Canadian Locomotive Co., Ltd., Kingston, Ont., and Fairbanks, Morse and Co., Chicago.

ago, are still running. To-day the company's opposed-piston engine, the model 38, has been improved and refined, but the basic design remains unchanged. This model 38 opposed-piston Diesel is the prime mover in the Fairbanks-Morse locomotive. In this service it is available in four ratings, each with the same bore and stroke. Each of the four ratings differs only in the length of the engine, with no difference in width or height, and because of its design the engine is ideally suited for application to locomotives. An accompanying illustration shows a six-cylinder 1,200 h.p. engine, which is used in the standard switching locomotive. Built with eight cylinders, the engine is rated at 1,600 h.p., with 10 cylinders, at 2,000 h.p., and with 12 cylinders, at 2,400 h.p. With the increased ratings obtained



Fairbanks-Morse Six - Cylinder, 1,200 H.P., Opposed - piston Diesel Engine with Generator



G. M. Niven,
President, Canadian Fairbanks-Morse Co., Ltd., and a director, Canadian Locomotive Co., Ltd.

by simply adding cylinders and pistons of the same bore and stroke, there is provided a complete line of locomotive engines in which the important wearing or dispensable parts, such as pistons and liners, are identical, regardless of the h.p. rating of the engine itself. As soon as possible, these opposed-piston Diesel engines will be manufactured by Canadian Locomotive Co., Ltd., at Kingston. Fairbanks-Morse Diesel electric locomotives, built at the Beloit plant of Fairbanks, Morse and Co., are in operation on many railways in the United States. Official advise of June 13 was that engineers and officials of Fairbanks, Morse and Co. were at Kingston on that date, in connection with the preparations for the manufacture of Diesel-electric locomotives there.

Railway Operating and Financial Results

	All Railways		Canadian National Rys.		Canadian Pacific Ry.	
Operating Revenues:—	**Feb., 1950**	**Feb., 1949**	**Feb., 1950**	**Feb., 1949**	**Feb., 1950**	**Feb., 1949**
Freight	$54,110,233	$54,534,602	$26,448,000	$25,936,000	$21,623,165	$22,428,877
Passenger	4,867,813	5,312,200	2,012,400	2,403,800	2,294,283	2,354,216
Mail	733,806	696,580	319,881	303,829	335,844	327,397
Express	2,269,647	2,150,277	* 1,675,181	* 1,646,900	499,151	415,539
Other passenger train	620,648	684,690	254,531	291,097	341,078	374,989
Water line	40,273	39,215			31,031	30,421
All other	3,081,702	2,552,415	1,577,307	1,359,774	1,278,741	967,990
Total Railway Operating Revenues	65,724,122	65,969,979	*32,287,300	*31,941,400	26,403,293	26,899,894
Operating Expenses:—						
Maintenance of way and structures	11,234,143	11,388,577	5,927,664	5,643,273	4,468,978	4,785,047
Maintenance of equipment	15,666,802	15,602,001	8,184,289	8,146,226	6,424,132	6,292,796
Traffic	1,505,183	1,360,648	671,124	599,877	713,600	651,352
Transportation	32,022,943	33,254,995	17,153,830	17,798,805	12,344,893	12,813,880
Miscellaneous operations	966,185	976,354	304,047	332,076	546,044	533,721
General	3,458,900	3,187,968	1,762,751	1,598,611	1,424,124	1,324,421
Total Railway Operating Expenses	64,854,156	65,770,543	34,003,705	34,118,868	25,921,771	26,401,217
Operating Income:—						
Net operating revenue	869,966	199,436	Dr. 1,716,405	Dr. 2,177,468	481,522	498,677
Railway tax accruals	1,584,522	1,599,909	620,084	604,664	459,682	509,570
Hire of equipment	Dr. 542,250	Dr. 738,149	Dr. 28,543	Dr. 89,329	Cr. 191,613	Dr. 48,963
Joint facilities rents	Dr. 224,850	Dr. 195,987	Cr. 13,331	Cr. 6,932	Dr. 170,842	Dr. 134,234
Operating income	Dr.1,481,656	Dr.2,334,609	Dr.2,351,701	Dr.2,864,529	42,611	Dr. 194,158
Operating Statistics:—						
Average miles of road operated	43,215.57	42,522.54	22,411.77	21,705.14	17,019.3	17,032.2
†No. of tons carried (Rev. Fr.)	10,977,152	12,284,784	4,591,223	5,004,372	3,844,750	4,406,118
No. of tons carried one mile (Rev. Fr.) Thous.	4,043,863	4,540,554	2,013,368	2,259,041	1,696,899	1,897,845
No. of tons carried one mile (All Fr.) Thous.	4,399,433	4,891,717	2,207,445	2,426,474	1,848,314	2,070,813
Gross ton miles, excl. of locomotive & tender Thous.	9,770,395	†10,267,490	4,885,317	5,037,664	4,039,441	4,285,486
No. of revenue passengers carried	2,321,669	2,769,276	1,178,487	1,461,515	932,212	1,064,338
No. of revenue passengers carried one mile Thous.	173,706	208,432	71,673	92,725	81,799	92,838
Freight train miles	6,347,589	6,625,711	3,155,245	3,190,676	2,677,958	2,862,838
Passenger train miles	2,969,769	3,445,626	1,249,285	1,663,028	1,479,284	1,529,328
Total train miles (rev. and non rev.)	9,573,926	10,338,845	4,556,177	5,012,111	4,250,443	4,493,578
Freight car miles—loaded	155,981,361	160,401,996	78,331,657	79,725,955	64,219,732	65,940,781
Freight car miles—empty	65,740,926	65,012,598	32,843,006	30,396,004	25,952,547	26,317,867
Passenger train car miles	26,288,411	28,934,194	11,795,095	13,940,226	12,134,190	12,504,044
Total amount of pay roll	$38,476,110	‡$38,821,782	$21,169,190	‡$21,190,869	$14,990,294	$15,281,650
Number of employees	169,602	† 173,506	95,180	97,112	65,128	66,846
Pay roll chargeable to ry. operating expenses	$35,951,643	†$36,244,989	$19,597,384	$19,491,699	$14,113,331	$14,479,756
Daily Averages per Mile of Road Operated:—						
Operating revenue	$54.32	$55.41	$51.45	$52.56	$55.41	$56.41
Operating expenses	$53.60	$55.24	$54.19	$56.14	$54.40	$55.36
No. of tons moved one mile (Rev. Fr.)	3,342	3,814	3,208	3,717	3,561	3,980
No. of tons moved one mile (All Fr.)	3,636	4,109	3,518	3,993	3,879	4,345
No. of revenue passengers carried one mile	144	175	114	153	172	199
Averages per Freight Train Mile						
Freight revenue	$3.52	$8.23	$8.38	$8.13	$8.07	$7.83
No. of tons of freight (Rev. Fr.)	637	685	638	708	634	663
No. of tons of freight (All Fr.)	693	738	700	760	690	725
Gross ton miles	1,539	1,550	1,548	1,579	1,508	1,491
Loaded freight cars	24.6	24.2	24.8	25.0	24.0	23.8
Empty freight cars	10.4	9.8	10.4	9.5	9.7	9.3
Averages per Passenger Train Mile:—						
Passenger train revenues	$2.86	$2.57	*$3.41	*$2.79	$2.35	$2.27
Passengers carried	58	60	57	56	55	61
Passenger cars	8.9	8.4	9.4	8.4	8.2	8.1
General Statistics:—						
Average operating expenses per train mile	$6.77	$6.36	$7.46	$6.81	$6.10	$5.80
Average length of haul (Rev. Fr.) Miles	368	379	439	451	441	432
Average passenger journey Miles	75	75	61	63	88	89
Average tons per loaded freight car mile	28.2	30.5	28.2	30.4	28.8	31.4
Average freight receipt per revenue ton mile	1.338c	1.201c	1.314c	1.148c	1.274c	1.182c
Average passenger receipt per passenger per mile	2.802c	2.549c	2.808c	2.592c	2.805c	2.530c
Ratio of operating pay roll to operating revenues	54.7%	54.9%	60.7%	61.0%	53.5%	53.8%
Ratio of operating expenses to revenues	98.68%	99.70%	105.32%	106.82%	98.18%	98.15%

‡ Includes $4,757 backtime. § Includes duplications. † Revised. x Includes gross express revenue.

The above figures relate to those railways with annual operating revenues of $500,000 or over.
C.N.R. figures include only C.N.R. lines in Canada with the exception of Hudson Bay Ry.
C.P.R. lines include all subsidiary lines in Canada.
Passenger and freight train miles contain a proportion of mixed train miles, divided on the basis of freight and passenger car miles in mixed train service. Total train miles include freight and passenger with their proportion of mixed train miles, special train and non-revenue train miles. The average freight revenue per freight train mile includes only rail line revenue. Average train revenue per passenger train mile includes revenue from passengers, mail, express, baggage, parlor cars, etc.

Operating Income Deficit in February

Figures presented in our June issue, pg. 294, showed that the Canadian railways suffered an operating income deficit of nearly $5½ million in January, and the figures in the table above, supplied by the Dominion Bureau of Statistics, Transportation Division, show that another operating income deficit was experienced in February, although it was considerably smaller than in January, and also smaller than the one experienced in February last year. However, results would have been much worse in February this year than they actually were, had it not been for a better average freight rate. With the revenue freight tonnage and revenue freight ton mileage reduced considerably in February this year from those of the month last year, there was a much smaller reduction, proportionately, in the freight traffic revenue, and total revenue did not decrease a great deal below that of February, 1949. With some reduction in operating expenses, there was an increase in net operating revenue, resulting in the decrease in the operating income deficit.

The total railway operating revenues for the railways collectively decreased from $65,969,979 in February, 1949, to $65,724,122 in the month this year. Freight traffic revenue decreased from $54,534,602 to $54,110,233, and passenger traffic revenue from $5,312,200 to $4,867,813. The de-

crease in freight traffic revenue was $424,369, or 0.8%, while that in passenger traffic revenue was $444,387, or 8.4%. Mail revenue, on the other hand, increased from $696,580 in the 1949 month to $733,806, and express revenue from $2,150,277 to $2,269,647. The increase in mail revenue was one of 5.3%, and that in express revenue was one of 5.6%. "Other passenger train" revenue decreased from $684,690 in the month last year to $620,648, while water line revenue increased slightly, viz., from $39,215 to $40,273. "All other" revenue was up from $2,552,415 to $3,081,702, or by 20.7%.

As stated, the decrease in freight traffic revenue was small in relation to that in revenue freight tonnage carried and also in relation to that in revenue freight ton mileage. The revenue freight tonnage carried decreased from 12,284,784 in February, 1949, to 10,977,152 in the month this year, and,with a decrease of two miles in the average freight haul, revenue freight ton mileage decreased in the ratio 4.540:4,043 or by 10%. The decrease in revenue freight tonnage was one of 10.6% However, the average freight receipt per revenue ton mile increased from 1.201c in February last year to 1.338c in the month this year. The number of revenue passengers carried decreased from 2,769,276 in the 1949 month to 2,321,669, and with the average passenger journey remaining constant at 75 miles, the revenue passenger mileage decreased in the ratio 2,084: 1,737, or by 16.7%. Despite an increase of from 2.549c to 2.802c in the average receipt per revenue passenger mile, the decrease of 8.4% in passenger traffic revenue referred to above was experienced.

The total operating expenses of the railways collectively decreased from $65,770,543 in February, 1949, to $64,854,156 in the month this year, a decrease in transportation expenses of from $33,254,995 to $32,022,943 having been the controlling factor in this regard. The outlay on mainteance of way and structures decreased somewhat, viz., from $11,388,577 in the 1949 month to $11,234,143, while that on maintenance of equipment increased slightly, viz., from $15,602,001 to $15,666,802. Traffic expenses were up, while the expenses of miscellaneous operations decreased slightly. General expenses increased from $3,187, 968 in the month last year to $3,458,900. The increase in traffic expenses was one of 10.6%, while the decrease in transportation expenses was one of 3.7%. General expenses were up by 8.5%.

With operating expenses reduced from those of February, 1949, considerably more than gross earnings, the net operating revenue of the railways collectively increased from $199,436 in the 1949 month to $869,966. With not much change in tax accruals, the hire of equipment debit came down from $738,149 in the 1949 month to $542,250, while the joint facilities rents debit increased somewhat, viz., from $195,987 to $224,850, and the result was that the operating income deficit decreased from $2,334,609 in February last year to $1,481,656.

In the handling of the freight traffic offering, freight train miles operated decreased from 6,625,711 in February last year to 6,347,589, but this decrease was not as large, proportionately, as that in the freight traffic, and the average revenue freight tonnage per freight train mile declined from 685 in the 1949 month to 637, the decrease as concerns all freight having been from 738 to 693. Loaded freight car miles decreased 2.8%, but empty freight car mileage

All Railways

Two Months ended February 28

	1950	1949	1948	1947
Operating revenues	$126,736,076	$132,953,662	$120,164,049	$110,967,260
Operating expenses	128,883,226	133,083,319	117,568,288	107,723,746
Net operating revenue	x2,147,150	x 129,657	2,595,761	3,243,514
Operating income	x6,896,281	x5,331,315	x3,087,510	x1,849,755

xDeficit.

The above figures apply to all Canadian railways with annual operating revenue of $500,000 or over: those of the C.N.R. United States lines are not included.

Canadian Pacific Railway

(Including Canadian Subsidiaries)

	Gross Earnings		Working Expenses		*Net Earnings		Increase
	1950	1949	1950	1949	1950	1949	
January	$24,544,458	$27,767,495	$26,488,163	$28,068,619	‡$1,943,705	‡$301,124	†$1,642,581
February	26,403,293	26,899,834	26,360,682	27,093,984	42,611	‡ 194,150	236,761
March	32,229,816	30,890,969	28,965,680	30,077,045	3,264,136	813,924	2,450,212
April	29,782,941	30,136,788	27,843,187	28,832,033	1,939,754	1,304,755	643,999
	$112,960,508	$115,695,086	$109,657,712	$114,071,681	$3,302,796	$1,623,405	$1,679,391

*After hire of equipment, joint facility rents and taxes.
‡Deficit. †Decrease.

C.P.R. U.S. Subsidiaries

	Minneapolis, St. Paul and Sault Ste. Marie Rd.		Wisconsin Central Ry.	
	1950	1949	1950	1949
April:—				
Railway operating revenues	$2,366,625	$2,746,440	$2,186,899	$2,314,388
Railway operating expenses	2,317,138	2,255,821	1,739,498	1,882,042
Net revenue from railway operations	49,487	490,619	447,401	432,346
Railway operating income	* 135,948	293,795	311,650	281,685
Net railway operating income	* 176,486	263,825	165,735	169,824
Four Months to April 30:—				
Railway operating revenues	$9,186,884	$9,487,279	$8,289,898	$8,820,069
Railway operating expenses	9,386,246	9,541,111	6,642,772	7,169,220
Net revenue from railway operations	* 199,362	* 53,832	1,647,126	1,650,849
Railway operating income	* 951,908	* 787,929	1,122,968	1,090,058
Net railway operating income	*1,085,595	* 962,519	528,291	564,824

*Deficit

Canadian National Railways

	Operating Revenues		Operating Expenses		Net Revenue		Increase
	1950	1949	1950	1949	1950	1949	
January	$35,041,000	$37,309,000	$37,605,000	$38,797,000	*$2,564,000	*$1,488,000	†$1,076,000
February	36,765,000	36,901,000	38,122,000	38,398,000	*1,357,000	*1,497,000	140,000
March	44,865,000	41,436,000	41,796,000	40,591,000	3,069,000	845,000	2,224,000
April	43,978,000	40,355,000	39,522,000	38,748,000	4,456,000	1,607,000	2,849,000
	$160,649,000	$156,001,000	$157,045,000	$156,534,000	$3,604,000	$ 533,000	$4,137,000

*Deficit. †Decrease

Central Vermont Railway (C.N.R. Subsidiary)

	April		Four Months to April 30	
	1950	1949	1950	1949
Railway operating revenues	$893,000.00	$805,000.00	$3,221,000.00	$3,152,000.00
Railway operating expenses	657,942.78	682,554.18	2,731,799.88	2,806,000.19
Net revenue from railway operations	235,057.22	122,445.82	489,200.12	345,999.81
Net railway operating income	132,052.34	45,665.91	79,767.69	* 14,382.83
Net income available for interest	108,668.98	20,837.18	* 14,030.62	* 111,848.20

* Deficit

Combined Figures of C.N.R. Canadian and U.S.A. Lines

	February, 1950	February, 1949
Operating Revenues		
Canadian Lines	$32,287,300	$31,941,400
United States Lines	4,477,700	4,959,600
Total	36,765,000	36,901,000
Operating Expenses		
Canadian Lines	34,003,705	34,118,868
United States Lines	4,118,295	4,279,132
Total	38,122,000	38,398,000
Net Operating Revenue		
Canadian Lines	*1,716,405	*2,177,468
United States Lines	359,405	680,468
Total	*1,357,000	*1,497,000
Operating Income		
Canadian Lines	*2,351,701	*2,864,529
United States Lines	* 223,138	116,780
Total	*2,574,839	*2,747,749

	Two Months Ended Feb. 28	
	1950	1949
Operating Revenues		
Canadian Lines	62,198,300	64,176,300
United States Lines	9,607,700	10,033,700
Total	71,806,000	74,210,000
Operating Expenses		
Canadian Lines	67,121,059	68,251,929
United States Lines	8,605,941	8,943,071
Total	75,727,000	77,195,000
Operating Revenues		
Canadian Lines	*4,922,759	*4,075,629
United States Lines	1,001,759	1,090,629
Total	*3,921,000	*2,985,000
Operating Income		
Canadian Lines	*6,344,202	*5,543,017
United States Lines	* 177,566	* 3,591
Total	*6,521,768	*5,546,608

*Deficit

increased 1.1%. Gross ton miles per freight train mile were reduced slightly, viz., from 1,550 in the 1949 month to 1,539. The loads per freight train increased on the average from 24.2 in the 1949 month to 24.6, and empties from 9.8 to 10.4. Car loading was off, viz., from 30.5 tons to 28.2 tons. Despite the reduction in the average revenue freight tonnage per train, earnings per freight train mile were up from $8.23 in February last year to $8.52, on account of the higher average freight rate applying.

The decrease in number of revenue passengers carried was accompanied by one of from 3,445,626 to 2,969,769 in the number of passenger train miles operated, and by one of from 28,934,194 to 26,288,411 in the number of passenger train car miles operated. Passengers per train decreased on the average from 60 to 58, but earnings per passenger train mile were up from $2.57 in February last year to $2.86.

There was a decrease of from 173,506 in February, 1949, to 169,602 in the month this year in the number of employees of the railways collectively, and the total payroll was reduced from $38,821,782 to $38,476,110, and the payroll chargeable to railway operating expenses from $36,244,989 to $35,951,643. The average earnings per employee increased from $223.75 in February, 1949, to $226.86. The operating payroll took 54.7% of gross earnings in February this year, compared with 54.9% in the 1949 month.

Examination of the figures recording daily averages per mile of road operated shows that operating revenue per mile of road per day, for the railways as a whole, decreased from $55.41 in the 1949 month to $54.32, while operating expenses on the same basis were reduced from $55.24 to $53.60. Revenue freight ton mileage per mile of road per day came down from 3,814 in the 1949 month to 3,342, the decrease as concerns all freight having been from 4,109 to 3,636. Revenue passenger mileage per mile of road per day declined from 175 to 144. The experiencing of operating difficulties in British Columbia in February this year no doubt contributed in some degree to the reduction in traffic.

The operating ratio for the railways collectively decreased from 99.7% in February last year to 98.68% in the month this year. Average operating expense per train mile was up from $6.36 in February last year to $6.77 in the month this year.

March figures for the C.N.R. and C.P.R. appeared in our June issue, pg. 295.

April Results on Transcontinental Railways

While the figures for the Canadian National in the third and fourth columns in the large table at the beginning of this review relate only to Canadian lines, figures supplied by the C.N.R. management and reproduced in an accompanying small table are for the whole system, and, as seen, the C.N.R. did considerably better in April this year than in that month last year, system net earnings having been $4,456,000 in the month this year, compared with $1,607,000, a betterment of $2,849,000. Operating revenues in April this year were $3,623,000 greater than in the month last year, while the increase in operating expenses was restricted to $774,000. In the first four months of this year, C.N.R. system gross earnings were $4,648,000 greater than in the same part of 1949, while operating expenses were up by $511,000, with the result that there were net earnings of $3,604,000 in the period this year, compared with an operating deficit of $533,000 in the 1949 period, a betterment of $4,137,000.

The Canadian Pacific, in April, had gross earnings $353,847 lower than those of April, 1949, but, with a reduction of $988,846 in operating expenses, net earnings were up from $1,304,755 in April last year to $1,939,754 in the month this year, a betterment of $643,999. In the first four months of this year, C.P.R. gross was $2,734,578 below that earned in the first four months of 1949, but operating expenses were reduced by $4,413,969, with the result that the net earnings in the first four months of this year, $3,302,796, exceeded those secured in the first four months of last year by $1,679,391.

Component Parts of C.N.R. System

In February, according to figures supplied by the Dominion Bureau of Statistics, the C.N.R. whole system had an operating deficit of $1,357,000; on the Canadian lines there was an operating deficit of $1,716,405, and on the United States lines, net operating revenue of $359,405. In April last year the whole system had an operating deficit of $1,497,000; there was an operating deficit of $2,177,468 on Canadian lines and net operating revenue of $680,468 on U.S. lines. In the first two months of this year, there was a system operating deficit of $3,921,000; while there was net operating revenue of $1,001,759 on U.S. lines, there was an operating deficit of $4,922,759 on Canadian lines. In the first two months of last year there was a system operating deficit of $2,985,000; while there was net operating revenue of $1,090,629 on U.S. lines, there was an operating deficit of $4,075,629 on Canadian lines.

Freight Car Condition

Advice from the Car Service Division of the Association of American Railroads is that on May 1 there were 1,665,595 railway-owned freight cars on United States Class 1 railway lines, of which 127,431, or 7%, were awaiting or undergoing repairs, and that on Canadian railway lines there were 167,299 railway-owned freight cars, of which 9,438, or 5.6%, were awaiting or undergoing repairs.

In the following are specified the number of the various classes of railway-owned freight cars on U.S. Class 1 lines on May 1; the numbers of the various classes awaiting or undergoing repairs, and the percentage of such cars on lines.

Classes of Cars	Total Cars on Lines	Cars for Repairs	% of Total
Box, plain and ventilated	638,899	39,678	6.2
Automobile	54,548	3,662	6.7
Gondola	267,566	25,275	9.4
Hopper, open	544,012	48,656	8.9
Hopper, covered	18,578	411	2.2
Stock	46,209	4,162	9.0
Flat	46,820	2,341	5.0
Refrigerator	18,518	1,436	7.8
Tank	7,958	372	4.7
All railway-owned freight cars	1,665,595	127,431	7.7

Privately-owned Cars in U.S.—On May 1 there were 212,365 privately-owned freight cars on United States Class 1 lines, of which 1,134, or 0.5%, were awaiting or undergoing repairs. Included were 100,121 privately-owned refrigerator cars, of which 525, or 0.5%, were awaiting or undergoing repairs, and 104,823 privately-owned tank cars, of which 586, or 0.6%, were awaiting or undergoing repairs.

Canadian Lines—Following are particulars of railway-owned freight cars, numbers in bad order and percentages of totals, on individual Canadian lines, on May 1:—Algoma Central and Hudson Bay, 1,410 cars on lines, 169 in bad order, 12% of total; Canadian National, 93,647, 6,852, 7.3%; Canadian Pacific, 70,091, 2,331 3.3%; Ontario Northland, 1,352, 43, 3.2%; Toronto Hamilton and Buffalo, 799, 43, 5.4%.

Railway Accidents

In April, according to the report of the Operating Department of the Board of Transport Commissioners for Canada, there were 181 accidents on Canadian railways, 11 persons being killed and 192 injured, and 24 accidents at level crossings, 11 persons being killed and 31 injured, a total of 205 accidents, with 22 persons killed and 223 injured.

Of these killed, three were employees and 19 others, and of those injured, 29 were passengers, 152 employees and 42 others.

The level crossing accidents by provinces were:

Nova Scotia	1
New Brunswick	1
Quebec	5
Ontario	9
Manitoba	2
Saskatchewan	2
Alberta	2
British Columbia	2
	24

Automobiles were involved in 12 crossing accidents, motor trucks in nine, pedestrians in two and a tractor in one. Chief causes were driving on crossings in front of approaching trains and driving into side of trains. Nineteen of the crossing accidents occurred at unprotected crossings and five at protected crossings, and 16 took place after sunrise and eight after sunset.

Canadian Transportation

Railways, Electric Railways & Trolley Coaches, Automotive, Air and Marine—Harbours, Waterways and Shipbuilding.

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Rolling Stock Orders and Deliveries

American Locomotive Co.—Official advice is that Canadian Locomotive Co., Ltd., Kingston, Ont., recently received an order from American Locomotive Co. for six steam locomotives of 4-8-2 wheel arrangement.

Canadian National Rys.—Official advice of June 20 was that the C.N.R. had placed an order with Canadian Car and Foundry Co., Ltd., for three 135-ton depressed center flat cars.

Canadian Car and Foundry Co., Ltd., has completed delivery to the C.N.R. of 20 duplex roomette sleeping cars of 24 rooms each, and two 135-ton depressed center flat cars.

To June 20, National Steel Car Corp., Ltd., completed delivery to the C.N.R. of 31 baggage cars on an order for 50.

Canadian General Electric Co., Ltd., has completed delivery to the C.N.R. of 18 70-ton Diesel-electric locomotives for service on Prince Edward Island lines.

Montreal Locomotives Works, Ltd., has completed delivery to the C.N.R. of eight 1,500 h.p. Diesel-electric road locomotives.

The depressed center flat cars being acquired by the C.N.R., mentioned above, are for use in handling extraordinary shipments, mainly heavy transformers, from Canadian manufacturers to consignees in all parts of the country. They are being fitted with special six-wheel trucks and axles, and the special air brake equipment consists of two complete systems, one for each truck. The depressed center section is only 2 ft. 4 in. from the rail. The cars are 60 ft. long, capable of carrying axle load of 225 tons, and frames are a one piece casting, with holes in the center section for anchoring the load.

Canadian Pacific Ry.—In the period period May 20—June 17, the C.P.R. received five first class passenger cars completed at Angus Shops, bringing the total received to 53 on an order for 64.

Also received during the period were one 1,500 h.p. Diesel-electric road freight locomotive, an "A" unit, from Montreal Locomotive Works, Ltd., on an order for 20, and one 1,500 h.p. Diesel-electric road freight locomotive, a "B" unit, from the same company, on an order for 20.

Also received were three five-bedroom, 10-roomette sleeping cars from Angus Shops, making the total received seven on an order for 14.

Work equipment received during the period included two Jordan spreaders and ditchers from F. H. Hopkins Co., making three of these machines received on an order for four, and a crane and piledriver from Browning Crane and Shovel Co., the first received on an order for two.

Ontario Paper Co.—The Canadian Locomotive Co., Ltd., has delivered a 50-ton Diesel-electric locomotive, of 0-4-4-0 wheel arrangement to Ontario Paper Co.

Pacific Great Eastern Ry. is reported as having placed an order for 20 70-ton longitudinal hopper cars with National Steel Car Corp., Ltd.

United States Railways.—On June 1, the Class 1 railways in the United States and railway-owned refrigerator car lines had 41,439 new freight cars on order, made up of 23,074 box cars, 1,284 refrigerator, 8,990 gondola, 2,890 hopper, 3,843 open top hopper, 500 stock, 60 flat and 798 for the carriage of pulpwood. Of these cars, 16,902 were scheduled to be built in the railway shops and 24,537 in outside shops.

In the first five months of this year, the Class 1 railways and railway-owned refrigerator car lines placed 9,148 new freight cars in service, made up of 2,158 box cars, 1,056 refrigerator cars, 1,331 gondolas, 403 covered hoppers, 1,888 open top hoppers, 2,310 flat and two miscellaneous.

The Class 1 railways installed 922 new locomotives in the first five months of this year, of which 918 were Diesel and four steam. They had 1,009 new locomotives on order on June 1, made up of 996 Diesel, nine steam and four electric.

Diesels in Soo Line Passenger Service

G. A. MacNamara, President, Minneapolis, St. Paul and Sault Ste. Marie Rd., announced inauguration of operation of Diesel-electric locomotives in regular passenger train service on the Soo line, on May 22, on which date the Soo Dominion train, No. 3, was hauled by a Diesel when leaving Minneapolis and St. Paul for Vancouver. Trains 3 and 4 were the first to be Dieselized, and trains 17 and 18, between Chicago and Duluth, were scheduled to begin using Diesel power in June. Also, it was planned to use Diesel-electric locomotives on the "Mountaineer," operating to Banff, Lake Louise and the Pacific Coast, upon the beginning of the summer service on June 30.

Mr. MacNamara's announcement said:—

"These four passenger train Diesel-electric locomotives, together with eight ordered for freight train and switching service costing $2,655,000, constitute the 1950 additions to the Soo Line Diesel-electric fleet, which will then total 64 locomotives. While the system will still have 203 steam locomotives, the Diesel-electric freight locomotives will handle 70% of the freight ton-miles."

Transportation Appointments

The information under this head, which is gathered almost entirely from official sources, is compiled with the greatest care, so as to ensure accuracy. Anyone who may notice any error in the announcements will confer a favor by advising the Editor.

British Columbia Electric Railway Co.

W. J. MARSHALL, heretofore General Freight and Passenger Agent, has been appointed also Freight Traffic Manager, and will supervise all of the company's freight and passenger agencies except the Davie and Carrall Street offices.



J. M. Frank,
General Agent, C.N.R.—G.T.W., Philadelphia, Pa. Mr. Frank's appointment to this position was recorded in our June issue, pg. 310.

Canadian Car Demurrage Bureau

C.H. THURBER has been appointed Manager, succeeding W. J. Collins, retired.

Canadian National Rys

R. D. AIKEN, previously Division Engineer, Capreol Division, has been appointed Division Engineer, Allandale Division, succeeding S. McIlwain, retired on pension after many years of faithful service.

L. S. BELL, previously Leading Hand Carman, Calder, has been appointed Car Foreman, Watrous, succeeding J. E. Grainger, transferred.

P. BELLEY, previously Assistant Roadmaster, Levis Division, has been appointed Roadmaster, succeeding T. J. Delisle, transferred, with jurisdiction from mile 1.12 Macimac Subdivision to mile 53 Kapuskasing Subdivision, and with headquarters at Cochrane.

J. R. M. BLANCHET, previously Night General Yardmaster, Joffre Yard, has been appointed General Yardmaster there, succeeding J. A. Guerin, resigned.

E. P. BURNS, previously Assistant Superintendent, Parent, Que., has been appointed Assistant Superintendent, Cochrane Division, Cochrane, Ont., succeeding J. D. Houde, transferred.

J. M. CHOUINARD, previously Assistant Superintendent, Senneterre, Que., has been appointed Assistant Superintendent, Cochrane Division, Parent, Que., succeeding E. P. Burns, transferred.

S. G. DANIEL, previously Designing Draftsman, headquarters staff, has been appointed Works Manager, Car Department, Point St. Charles, Montreal, succeeding E. P. Stemshorn.

T. J. DELISLE, previously Roadmaster, Cochrane, Ont., has been appointed Roadmaster elsewhere on the Cochrane Division. His new jurisdiction is from mile post 69, Amos Subdivision, to mile post 40, Oskelaneo Subdivision, and Kiask Falls Subdivision, with headquarters at Senneterre.

H. H. FERGUSON, previously Rule Instructor, Southern Ontario District, has been appointed Passenger Trainmaster for the district, succeeding J. C. Pulford, retired on pension after many years of faithful service. Headquarters, Toronto.

J. E. GRAINGER, previously Car Foreman, Watrous, has been appointed Car Foreman, Biggar, succeeding G. W. Halliday, retired on pension after many years of faithful service.

W. E. GRIFFITHS, previously Engineer of Track, Montreal, has been appointed Assistant Chief Engineer, Central Region, with headquarters at Toronto, succeeding A. V. Johnston, transferred.

J. D. HOUDE, previously Assistant Superintendent, Cochrane Division, has been appointed Assistant Superintendent, Laurentian Division, with headquarters at Quebec.

F. A. HUNT, previously Assistant Division Engineer, Belleville, has been appointed Division Engineer, Capreol Division, Capreol, Ont., succeeding R. D. Aiken, transferred.

J. L. LANE, previously Roadmaster, Cochrane Division, has been appointed Roadmaster on the Laurentian Division, with headquarters at Quebec, succeeding J. Levesque, retired on pension after many years of faithful service. Mr. Lane has jurisdiction on the Bridge Subdivision from mile 3.1 to 9, on the Manouan Subdivision from mile 0 to 1.84, and on the Champlain and La Tuque subdivisions.

F. G. LOWE, previously Temporary Diesel Road Foreman of Engines, Capreol Division, has resumed his former duties as Rule and Mechanical Instructor, Northern Ontario District, with headquarters at North Bay, succeeding W. J. McElroy.

J. L. MARTINEAU has been appointed Trainmaster, Laurentian Division, Jonquiere, Que., succeeding J. H. D. Robitaille, promoted.

C. G. MORRIS, previously Car Foreman, Nutana and Saskatoon, has been appointed Car Foreman, Nutana.

A. NORMANDEAU, previously Night Assistant Foreman, Radville, has been appointed Day Assistant Foreman there, succeeding W. R. Innes, who was Locomotive Foreman at Radville and who has retired on pension after many years of faithful service.



T. P. James,
whose appointment as General Superintendent, Sleeping, Dining and Parlor Car Department, Prairie and Pacific regions, C.P.R., Winnipeg, was recorded in our June issue, pg. 310.

The position of Locomotive Foreman at Radville has been discontinued.

G. L. PLOW, previously Senior Assistant Engineer, has been appointed Engineer of Track, Montreal, succeeding W. E. Griffiths.

J. H. D. ROBITAILLE, previously Trainmaster, Laurentian Division, has been appointed Assistant Superintendent, Cochrane Division, Senneterre, succeeding J. M. Chouinard, transferred.

E. P. STEMSHORN, previously Assistant Works Manager, Car Department, Point St. Charles, Montreal, has been assigned to special duties in the Mechanical Department at Montreal headquarters.

W. STIRLING, previously Assistant to General Freight Claim Agent, has been appointed Freight Claim Agent, Montreal, succeeding R. J. Robson, retired under the pension regulations.

H. J. M. TATLER, previously Night Coach Foreman, Saskatoon, has been appointed Coach Foreman there.

H. A. THRASHER has been appointed Assistant Bridge and Building Master, Hornepayne Subdivision, Hornepayne, Ont.

G. F. WADE, previously Mechanical and Rule Instructor, Southern Ontario District, has been appointed Rule Instructor for the district, succeeding H. H. Ferguson, promoted. Headquarters, Toronto.

C. D. WORBY, previously Instrumentman, has been appointed Assistant Division Engineer, Portage-Brandon Division, with headquarters at Winnipeg.

Canadian National Rys.—Grand Trunk Western Lines

F. J. FOLEY has been appointed General Agent, Freight Traffic Department, Memphis, Tenn., succeeding G. R. Nolan, promoted.

Canadian Pacific Express Co.

W. J. DONLON, previously Agent, Saskatoon, Sask., has been appointed Agent, Regina, succeeding F. C. Love, retired on pension.

W. F. FISHER, previously of the Saskatoon office, has been appointed District Representative, Saskatoon, succeeding P. Simpson, appointed Agent there.

P. SIMPSON, previously District Representative, Saskatoon, has been appointed Agent there, succeeding W. J. Donlon.

Canadian Pacific Railway

G. H. BAILLIE, previously Vice President, Pacific Region, Vancouver, has been appointed Vice President, Eastern Region, Toronto succeeding D. S. Thomson, transferred.

JAMES M. BARTLETT, previously Ticket Agent, Moose Jaw, has been appointed Special Passenger Representative in charge of passenger traffic at mountain resorts, for the summer months, with headquarters at Banff.

AUSTIN CAPPER, Chief Ticket Clerk at Moose Jaw, has been appointed Ticket Agent there, to act during absence of J. M. Bartlett, who has been transferred to Banff for the summer months, to handle passenger traffic at mountain resorts.

N. F. COWIE, previously Division Freight Agent, Quebec District, has been appointed Division Freight Agent, Manitoba District, succeeding F. A. Duff. Headquarters, Winnipeg.

J. EASBY, previously Roadmaster, Woodstock, Ont., has been appointed Roadmaster, Windsor Subdivision, Windsor, Ont., succeeding P. Primeau, transferred.

A. E. EMERY, previously of Winnipeg, has been appointed Superintendent, Communications Department, Moose Jaw, Sask., succeeding R. V. Tombe.

W. S. GOURLEY has been appointed Division Freight Agent, Quebec District, Montreal. (Press report)

H. W. HOWARD, previously of Winnipeg, has been appointed Superintendent of Traffic, Communications Department, Montreal.

C. W. HUNTER, previously of Montreal, has been appointed Inspector, Communications Department, Vancouver.

J. JACKSON has been appointed Relieving Roadmaster, Kenora Division.



O. A. Trudeau,
Assistant General Passenger Traffic Manager, C.N.R. Mr. Trudeau's appointment to this position was recorded in our June issue, pg. 310.

D. N. MACLEOD, previously of Vancouver, has been appointed Superintendent of Traffic, Communications Department, Winnipeg, succeeding A. E. Emery.

WILLIAM MANSON, previously Vice President, Prairie Region, Winnipeg, has been appointed Vice President, Pacific Region, Vancouver, succeeding G. H. Baillie, transferred.

R. E. MELVIN has been appointed City Freight Agent, Montreal. (Press report.)

H. G. MONTGOMERY, previously Night Wire Chief, Communications Department, Winnipeg, has been appointed Inspector there, succeeding H. W. Howard.

W. J. PRICE, previously Superintendent, Brandon Division, has been appointed Superintendent, Calgary Division, succeeding T. Wood, transferred.

P. PRIMEAU, previously Roadmaster, Windsor Subdivision, has been appointed Roadmaster, Port Burwell, St. Thomas and St. Marys subdivisions, Woodstock, Ont., succeeding J. Easby, transferred.

W. M. RUSSELL, previously Assistant Superintendent, has been appointed Superintendent, Winnipeg Terminals, succeeding M. J. Barry, retired on pension because of ill health.

W. SIMPSON, previously Assistant Paymaster, Calgary, has been appointed Paymaster there, succeeding E. H. Boalch, retired on pension.

E. D. STEVENS has been appointed Locomotive Foreman, Quebec Street, London, succeeding N. R. Hay, transferred.

F. G. TEAGUE, previously Chief Travelling Auditor, Montreal, has been appointed General Accountant, Winnipeg, succeeding S. Moore, retired on pension after 43 years' service.

D. S. THOMSON, previously Vice President, Eastern Region, Toronto, has been appointed Vice President, Prairie Region, Winnipeg, succeeding William Manson, transferred.

R. V. TOMBE, previously Superintendent, Communications Department, Saskatchewan District, Moose Jaw, has been appointed Superintendent at Vancouver, succeeding L. E. Hamson, promoted.

G. E. WARNER, previously Assistant General Auditor, Montreal, has been appointed Auditor of Miscellaneous Accounts, there, succeeding H. B. Timmins, retired on pension after nearly 52 years of service with the company.

E. J. WOOD has been appointed District Freight Agent, Ottawa. (Press report.)

T. WOOD, previously Superintendent, Calgary Division, has been appointed Superintendent, Brandon Division, succeeding W. J. Price, transferred.

Montreal Tramways Co.

H. W. ROYL, previously Assistant Superintendent of Maintenance, Autobus Department, has been appointed Superintendent of Maintenance, Autobus Department, succeeding H. R. Holder, retired after many years of service with the company.

Quebec Ry., Light and Power Co.

J. P. PAGE has been appointed Superintendent, Transit Division, succeeding J. H. Levasseur, retired after 50 years and nine months of service.

Toronto, Hamilton and Buffalo Ry.

A. I. COOMBS, previously Assistant to President, has been appointed Assistant to General Manager.

W. B. SALTER, previously Assistant General Manager, has been appointed General Manager.

Mainly about Railway People

Paul L. Belcourt, B.A., B.Ph., B.C.L., who was recently appointed Assistant Secretary of the C.N.R., its Canadian subsidiaries and Canadian National (West Indies) Steamships, was born at Ottawa, Ont., January 9, 1906. He was educated at Ottawa College and the universities of Montreal and Ottawa. In 1932 he became a partner in the law firm of Belcourt and Genest, Ottawa. He served with the Canadian Army, Judge Advocate General's Branch and Director of Estates, as Assistant Judge Advocate General, from 1940 to 1944, and as Lieut.-Colonel and Deputy Director, Estates Branch, 1944-1946. In September, 1946, he was appointed Assistant to the President, War Assets Corp., Ottawa, in July 1947, Secretary and Solicitor, Commodity Prices Stabilization Corp., Ltd., Ottawa, and, in February, 1949, Assistant Secretary of the Royal Commission on Transportation. Mr. Belcourt has also held these offices:—Red Cross Society, on Executive Committee; Property Owners' Association of Ottawa, on Executive Committee.



G. H. Pescud,
whose appointment as Assistant General Manager of Communications, C.P.R., Montreal, was recorded in our April issue, pg. 186.



B. Chappell, B.Sc. (C.E.),
Engineer, Maintenance of Way, Western Region, C.N.R., Winnipeg. Mr. Chappell's appointment to this position was recorded in our June issue, pg. 310.

J. M. Frank, who was recently appointed General Agent, C.N.R.-G.T.W., Philadelphia, Pa., began his railway career as a messenger in 1922 in the Chicago office and progressed through various positions to become Chief Clerk, General Freight Agent's Office, in 1946. Early in 1947 he was promoted to Chief Clerk, Freight Traffic Manager's office, and a few months later, to General Agent, Kansas City, Mo. He was named General Agent at Cincinnati, Ohio, in 1948.

Donald Gordon.—Confidence in the continuing expansion of Canada's economic development, and in the ability of the railways to provide the transportation facilities essential to national prosperity, was voiced at Montreal on May 29 by Donald Gordon, chairman and president, C.N.R., on his return from an inspection trip of some 5,000 miles to western Canada and the Pacific Coast. He said:—"I was impressed with the tremendous industrial and other expansion that has taken place, and with the immense possibilities that lie ahead of us. The railways have played a significant part in this development, and the so-called over-building of Canadian railways will in course be fully justified. I found it an exhilarating and inspiring experience to see Canada from the railroad bed up." Along the line during the four-week inspection, Mr. Gordon met civic officials and delegations, and discussed with them their hopes and aspirations as well as their problems—problems which the C.N.R. can play a part in solving. At Winnipeg, he toured the flood-stricken areas and with railway and civic authorities flew over the city and district. It presented an outstanding example of fortitude and co-operation, he said. Thousands worked on the dykes without thought of self comfort, and great sacrifices were made on every hand to help others who were in dire trouble. He was accompanied by S. F. Dingle, Vice President of Operation, and system, district and divisional engin-



Owen Gleason,
whose appointment as Assistant to General Superintendent, Sleeping, Dining and Parlor Car Department, C.P.R., Prairie and Pacific regions, Winnipeg, was recorded in our June issue, pg. 310.

eers, on his trip. They made a special examination of the lines in British Columbia. The problems peculiar to the mountain territory present a real challenge which must be tackled, he said. He added that he had taken every opportunity to meet the railwaymen in their workshops, on the job at terminals, along the line and in the offices and stated:—"I am more than ever impressed with their skill, experience and loyalty, and with the magnitude of the C.N.R.'s system operations. This has not gone unrecognized in the cities and communities served by the railway. There is a friendly attitude everywhere toward the system and a widespread sympathetic desire to see the implementation of my recommendations to the Royal Commission on Transportation. The harmful effects upon our employees and the public arising from our present unwieldy and confused financial structure cannot be over-emphasized. There is general and strong support for our contention that clarification of these unrealistic financial results is essential to a full understanding of our efficiency. There is no quarrel with our request that the raliway be placed in a better poition to serve in the development of our country and its commerce." Before proceeding to western Canada, he went over the main line of the system between Montreal and Windsor, and everywhere received the warmest of welcomes in his capacity as railway chief. Mr. Gordon began a tour through the Maritime Provinces later in June, and in Halifax, on June 25, stated that the seven provinces which have been opposing rate increases for the railways would be well advised to abide by the decisions of the Board of Transport Commissioners for Canada. He pointed out that what is needed is a willingness to accept the rulings of constituted authorities, and if individuals and organizations refuse to do so, democracy will become unworkable. For the same reason, he said, the non-operating employees of the railways would be well advised to accept the findings of the conciliation boards which acted in the wage disputes between these employees and the railway managements.

H. W. Lambert, whose appointment as inspector, Investigation Department, C.P.R., Fort William, Ont., was recorded in our June issue, was previously Investigator at Winnipeg, Man., for three years, and prior to that held similar positions at Calgary and Medicine Hat, Alta. For a year in World War II he was master-at-arms on the C.P.S. Empress of Russia, since lost.

E. W. Travis, whose appointment as General Agent, Passenger Department, C.P.R., San Francisco, Calif., was recorded in our June issue, was born at Elkhorn, Man., Dec. 23, 1893, and entered railway service in 1909 as assistant agent, Canadian Northern Ry., Big River, Sask. After serving in clerical positions with that company and with the Great Northern Ry., he joined the C.P.R. in 1915, as Soliciting Passenger Agent, Winnipeg, his subsequent appointments being:—1920, ticket agent, Banff, Alta.; 1923, City Ticket Agent, San Francisco; 1926, City Passenger Agent, San Francisco; 1930, Travelling Passenger Agent, San Francisco; 1938, Chief Clerk, Passenger Department, Los Angeles. He was in the Royal Air Force as Flight Lieutenant, 1916-18.

Alfred Paverley Walker, M.E.I.C., O.L.S., formerly Assistant District Engineer, C.P.R., Toronto, died there on May 20 after a lengthy illness. Born in England, and coming to Canada at an early age, Mr. Walker subsequently served 42 years with the C.P.R., retiring 25 years ago. During his career he was identified with construction on the Ontario and Quebec Railway, the Ottawa and Gatineau Valley Railway and the Montreal and Western Railway. He also resurveyed almost all C.P.R. lines in the Ontario District.

C. W. Wells, Assistant General Freight Traffic Manager, C.N.R., died in Montreal, June 21, following a heart seizure. Mr. Wells, a native of Bosham, Sussex, England, entered Grand Trunk Ry. service in Montreal in 1905, and, following successive promotions in G.T.R. and C.N.R. service, became Chief of the Rate and Tariff Bureau in 1925. He became Assistant General Freight Agent in 1930 and General Freight Agent in 1939, and in 1945 was promoted to Freight Traffic Manager, Central Region, with headquarters in Toronto. He returned to Montreal in 1946 as Assistant General Freight Traffic Manager for the system. He was a member of the Traffic Club of Montreal, the Canadian Railway Club, the Transportation Club of Toronto and the Toronto Railway Club.

Traffic Club of Montreal

The annual meeting of the Traffic Club of Montreal was held at the Mount Royal Hotel in that city on May 17, when R. L. Broderick, Import Freight Manager, Cunard Donaldson, Ltd., was elected President, succeeding P. A. Marchand, Traffic Manager, J. B. Baillargeon Express, Ltd. F. J. McCann, Traffic Manager, Northern Electric Co., Ltd., was elected First Vice President, and J. N. Boyle, Manager, Rail Service, Guy Tombs, Ltd., Second Vice President. W. G. S. McConkey, General Freight Agent, Canada Steamship Lines, Ltd., is honorary Secretary-Treasurer.

Directors, in addition to the officers specified above, were elected as follows:—Hugh Johnston, Director of Cargo Sales, Trans-Canada Air Lines; W. F. Millington, Vice President, International Railway Publishing Co., Ltd.; John Mitchell, Supervisor of Customs, Canadian Industries, Ltd.; H. B. Parr, Assistant to the Vice President, Canadian National Rys.; A. M. Shields, Assistant Freight Traffic Manager, Canadian Pacific Ry.; J. E. D. Sicotte, President, Transports, Ltd.

Chairmen of standing committees this year are: Entertainment, Mr. Parr; public affairs, W. J. McCallum, of Dominion Glass Co., Ltd.; publicity, Mr. Millington; dinner, H. F. McCullough, of McLean Kennedy, Ltd.; finance, Mr. Johnston; reception, W. G. McNiece, of B. and S. H. Thompson and Co., Reg'd.; auditing, J. Gleave, of C.N.R.; speaker, W. A. Gray, of Pennsylvania Rd.; membership, Mr. Shields.

New "Name" Train in Nefoundland

Effective June 18, another "name" train was added to the roster of Canadian National Railways passenger trains. Train No. 1 westward and train No. 2 eastward, operating between St. John's and Port Aux Basques, Newfoundland, is now known as "The Caribou", and its frequency has been increased from a tri-weekly service to a daily service. "This also marks the first time in the history of Newfoundland that a daily passenger rail service has been operated across the island province," S. F. Dingle, Vice President, Operations, stated.

The new "name" train schedule appeared in the June 18 issue of a C.N.R. time table folder for Newfoundland, and shows departure from St. John's at 5:00 p.m. Newfoundland time, and from Port Aux Basques at 9:00 a.m.

Concurrently, the Gulf steamship service between Port Aux Basques and North Sydney has been increased to daily, commencing June 17 from North Sydney.

C.N.R. May Net Well Up

In May, Canadian National Rys. (whole system) gross earnings were $47,534,000, compared with $40,184,000 in May, 1949, an increase of $7,350,000, and operating expenses were $41,197,000 compared with $39,587,000, an increase of $1,610,000, with the result that the net operating revenue in May this year was $6,337,000, compared with $597,000 in the 1949 month, an increase of $5,740,000.

Operating revenue in the first five months of this year was $208,183,000, an increase of $11,998,000 over that of the 1949 period, while operating expenses, $198,242,000, were up by $2,121,000, with the result that the net operating revenue in the first five months of this year, $9,941,000, exceeded that for the first five months of 1949 by $9,877,000.

C.P.R. Preferred Dividend

At a meeting of the Canadian Pacific Ry. Co. directors in Montreal, on June 12, a dividend of 2% on the preference stock, in respect of the year 1950, was declared payable on August 1 to stockholders of record at 3 p.m. on June 30.



New International Aviation Building Opened

With appropriate ceremony and with addresses by the Minister of Trade and Commerce, Mr. Howe, the Minister of Transport, Mr. Chevrier, and the Canadian National Rys. Chairman and President, Donald Gordon, the International Aviation Building, constructed under C.N.R. direction, was officially opened on June 1.

The spotlight was focused on headquarters of world aviation in Montreal on June 1, when Rt. Hon. C. D. Howe, Minister of Trade and Commerce, representing the Canadian Government, officially opened the new International Aviation Building, constructed by Canadian National Railways as a home for world aviation councils and airlines..

Introduced by Donald Gordon, C.M.G., Chairman and President of the C.N.R., to the more than five hundred guests representing the aviation branch of the United Nations, civic, airlines and business leaders, against the backdrop formed by the flags of 58 nations, Mr. Howe declared the new building opened and ready to play its role as the nerve-centre of the aerial world. Also present were 125 newspapermen from Canada and the United States.

"Few international agencies have succeeded in bringing so many of their member nations into agreement on such a number and variety of international problems," said Mr. Howe, in speaking of the International Civil Aviation Organization, which will occupy the top six stories of the building. "The position of Canada in international aviation is consistent with our general position in world affairs. We believe that multilateral solutions are generally preferable to bilateral solutions and that both are preferable to unilateral solutions. It is our hope that Canadian policies for the development of civil aviation will continue to be carried out in the spirit and within the framework of I.C.A.O."

"The gathering together of representatives of fifty eight nations of the world is worthy of attention at any time," said Mr. Gordon. "Its occurrence in Canada serves to emphasize that this country occupies a recognized place in the council of nations and that it stands ready to undertake the responsibilities which go with independent nationhood. As president of the Canadian National System, which erected this building as part of its Central Station plan, and as a Canadian citizen proud of the fact that this great Canadian city of Montreal has become the air capital of the world, I welcome you today. This building now houses the global headquarters of the International Civil Aviation Organization and the International Air Transport Association, as well as the offices of many of the world's important airlines."

Hon. Lionel Chevrier, Minister of Transport, said that "the opening of this building represents more than just the fulfilment of an undertaking to the International Civil Aviation Organization. It is the first step in a





At the Official Opening of the International Aviation Building, in Montreal
In one view, the Minister of Trade and Commerce, the Rt. Hon. C. D. Howe, is shown snipping the golden ribbon to officially open the building, and with him, from left to right, are:—Miss Elisabeth Both, K.L.M. (Royal Dutch) Airlines stewardess; Comm. C. P. Edwards, C.M.C., Deputy Minister of Transport for Air; Hon. Lionel Chevrier, Minister of Transport; Donald Gordon, C.M.G., Chairman and President, Canadian National Railways; Mayor Camillien Houde, C.B.E., of Montreal, and Miss R. "Bobbie" Steele, Canadian Pacific Airline stewardess.—In the other view, Mr. Howe is shown dedicating the fine, modern structure to the service of world aviation, and in the background, front row, from left to right, are seen Dr. Edward Warner, President of the Council, International Civil Aviation Organization; Mr. Gordon; Mayor Houde, and W. A. Mather, President, Canadian Pacific Railway Co.

substantial construction programme by the Canadian National Railways which will see, in due course, the construction of both an office building and a hotel on adjacent sites. This program, carried out in co-operation with the Montreal Town Planning Commission, will provide the city with a new focal point for its already extensive transportation interests."

"Transportation has always been a field of unusual significance in Canada because of economic, geographic and demographic conditions," continued Mr. Chevrier. "It is indicative of our lively interest and activity that this new building is to serve the needs of the newest form of transportation, flying, in which we have not only a noteworthy record but an even greater future. It is indicative of our integrated approach to the whole field of transportation that this building has been provided by a company well established in one of the older fields of transportation."

"Civil aviation holds a position of ever increasing importance in our modern existence and it was quite natural that Montreal, the cross roads of ocean transportation, national and international, should aspire to become the symbol in air navigation," Mayor Camillien Houde said. "This building, which will accommodate not only the two great international associations but also representatives of many important airlines, will be a testimonial of the part played by Canada in developing civil aviation and of the position held by Montreal on the air map of the world."

Following Mayor Houde, J. O. Asselin, chairman of the executive committee of the city, referred to the completion of the building as "adding a new and important facade to the architecture of the metropolis. It marks a further stage in the realization of the plans whereby an ensemble of other mighty buildings will eventually occupy this surrounding area."

G. R. McGregor, President, Trans-Canada Air Lines, remarked that "an airline such as ours, which is national in origin, but international in scope, is particularly well able to appreciate the excellence of the work of the two very important international bodies. In this new home, T.C.A. has been most fortunate in being able for the first time in its history to establish a consolidated company headquarters. By assembling previously scattered administrative staffs here we have been able to achieve important operating economies, and closer co-ordination of management."

Dr. Edward Warner, president of the council I.C.A.O., said that his organization had been looking forward to the dedication of the building for some time, and that its completion was a good fortune for the 58 member nations. It was, he said, a source of pride to city, country and all the tenants.

Sir William Hildred, speaking as an internationalist, in the aviation field, said:—"It is no overstatement to say that the success which attends the work done in this building may well be the measure of the political, economic and moral health of the world we live in, and, what is more, of the world our children live in."

A tour of the building itself, following the impressive opening ceremonies, gave some indication of the $4,000,000 structure possibilities. From the impressive lobby, 400 ft. long by 80 ft. wide, where the aviation companies of the world do business, to the tenth floor I.C.A.O. council chamber, with its seats for 58 member nations and facilities for simultaneous translation, everything is modern and tasteful.

The International Aviation Building forms the first unit of a group of three buildings designed to dominate the Montreal terminal area. The three buildings, aviation building, office building and hotel, are each designed to express their separate identity, but at the same time the composition will appear as one co-ordinated group, and each building will be connected to the other.

The C.N.R. has, with the building, held onto 25 acres of aerial rights. This takes in the sunken rail lines leading in and out of Central Station, and which if roofed over, could provide mid-city aerial facilities unrivalled in the world.



The Vast Amount of Steel in the Extention to the Canadair, Ltd., Plant Is Shown by the Above Constructional View

Canadair Ltd., Plant Extension

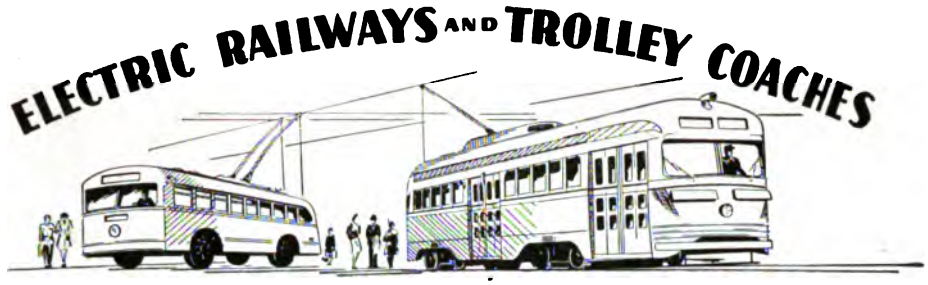
Mention was made in our June issue, pg. 318, of the plans of Canadair, Ltd., Montreal, to extend its No. 1 plant at Cartierville, to provide a further 200,000 sq. ft. of additional covered space. It was recorded that decision to extend the plant followed receipt of an order for 100 F-86A "Sabre" jet fighter aircraft for the R.C.A.F. Inquiry elicits the official advice that the plant extension work, which is being carried out at a cost of about $2 million, has been progressing very favorably. The management expected that by the end of June the flooring would be completed, the power on, all cranes operating and several machines installed and operative. Throughout July, the picture will improve, with continued installation of new equipment and the moving of certain departments from the original structure into the new extension.

A. D. McLean to Air Transport Board

A. D. McLean, O.B.E., Controller of Civil Aviation, Department of Transport, has been appointed a member of the Air Transport Board, succeeding Air Vice Marshall A. Ferrier, C.B., M.C., resigned to join the I.C.A.O. Secretariat.



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A. D. McLean, O.B.E.,
Controller of Civil Aviation, Department of Transport, and a member of the Air Transport Board.



Highly Successful Meeting of Transit Association

The 45th annual meeting of the Canadian Transsit Association, at Bigwin Inn, Lake of Bays, was, like its many predecessors, a very successful one, presenting ample oportunity for discussion of the many and varied problems now facing the transit industry.

The plans for the 1950 annual meeting of the Canadian Transit Association were presented fully in Canadian Transportation for June, beginning on pg. 319, and at the meeting, were adhered to closely throughout. There was a splendid attendance at the meeting, representative of transit operating properties from coast to coast, and of the many firms supplying equipment and materials for the industry, and among the visitors from the United States were the President of the American Transit Association, Morris Edwards, President, Cincinnati Street Ry. Co., and Guy C. Hecker, the A.T.A. Executive Manager. The reports of the Association standing committees were presented and discussed, and several outstanding addresses were given by highly qualified speakers, as noted hereinafter. The entertainment factors of the meeting were not neglected, and all present derived much enjoyment from the recreational aspects of the gathering.

At the opening general session of the meeting, on the morning of June 12, with the retiring President, W. H. Furlong, K.C., Chairman and General Manager, Sandwich, Windsor and Amherstburg Ry. Co., presiding, the minutes of the 1949 meeting were read and approved, applications for membership and resignations from membership were dealt with, and the report of the Treasurer, Leonard Tait, Secretary-Treasurer, The London Street Ry. Co., and of the Secretary, J. F. Neild, Electrical Engineer, Toronto Transportation Commission, were presented. Mr. Furlong presented a very thoughtful presidential address, which is reproduced in part later in this article, and Mr. Edwards addressed the gathering on "The Outlook for Improved Transit Profits," and his address will be published in our August issue. Mr. Hecker then followed with an address on "Observations on Current Transit Trends," which we hope to publish in full in an early future issue.

In the evening, at a business session, the work of the standing committees was considered, and R. S. Lee, Director of Technical Training, Twin Coach Co., Kent, O., spoke on "Liquid Petrolium Fuels for Motor Coaches."



J. R. Empringham,
Superintendent, Niagara, St. Catharines and Toronto Ry. Co., and President, Canadian Transit Association

At the general session on the morning of June 13, with Mr. Furlong presiding, John Ray, Economist, Sandwich, Windsor and Amherstburg Ry., gave an address entitled "Non-Money Items Cost Money," and Harry N. Phillips, C.L.U., of Sun Life Assurance Co. of Canada, Detroit, spoke on "Pensions in Modern Industry—If, Why and How." On the evening of June 13, designated "Public Relations Night," R. W. Queens-Hughes of Public Relations and Publicity, Winnipeg Electric Co., gave an address entitled "Transit Meets the Flood," illustrated by lantern slides and describing the experiences of the Winnipeg Electric Co. during the recent Red River flood in Southern Manitoba. S. Sigmundson, Manager, Transportation Operations, British Columbia Electric Ry. Co., showed that company's colored film, "On the Spot," emphasizing the convenience, comfort, safety and economy of B.C.E.R. Co. transit service. The plot of this movie is concerned with the conversion of a skeptic to the belief that a B.C.E.R. Co. ride represents the best value obtainable. C. H. Clancy, Executive Assistant on Public Relations, Toronto Transportation Commission, showed a colored movie dealing with subway construction in Toronto.

At the general session on Wednesday, June 14, at which Mr. Furlong presided, W. F. Irvin, Director of Development and Research, Toronto Transportation Commission, presented an address entitled "Problems of Zone Fare Operation," and Allan Harvey, Mechanical Superintendent, Provincial Transport Co., spoke on "Bus Transportation and the Diesel."

The nominating committee then presented its report and officers for the ensuing year were elected and installed.

Officers for 1950-51

J. R. Empringham, Superintendent, Niagara, St. Catharines and Toronto Ry. Co., who was Vice President last year, was elected President, and P. A. S. Todd, who was a member of the executive committee last year, was elected Vice President. Leonard Tait, Secretary-Treasurer, The London Street Ry. Co., continues as Treasurer, and J. F. Neild, Electrical Engineer, Toronto Transportation Commission, as secretary.



Groups at Canadian Transit Association Meeting.

The members of the honorary advisory council for 1950-51 are: Messrs. Aubrey A. Burrows, President, Acton Burrows Co., Publishers, Canadian Transportation; W. H. Carter, President and General Manager, Winnipeg Electric Co.; W. R. Creighton, Chairman, Ottawa Transportation Commission; V. Cusson, Chairman, Montreal Tramways Commission; Dr. A. E. Grauer, President, British Columbia Electric Ry. Co.; William C. McBrien, Chairman, Toronto Transportation Commission; J. N. Sicard, Vice President and General Manager, Quebec Ry., Light and Power Co.; G. Fraser Stewart, K.C., City Solicitor, Regina, Sask.

The executive committee of the Association for 1950-51 does not differ greatly in personnel from that of last year. E. Gray-Donald, Vice President and General Manager, Shawinigan Water and Power Co., has been replaced by M. T. Bancroft, Vice President and Comptroller, Quebec Ry., Light and Power Co. Other members, in addition to the President, Vice President Treasurer, immediate Past President (Mr. Furlong) and Honorary Counsel (I. S. Fairty, K.C., General Counsel, Toronto Transportation Commission) are Messrs. E. W. Arnott, D. E. Blair, R. B. Chandler, H. J. Curtis, C. H. Dahl, A. Duperron, T. Ferrier, D. N. Gill, P. G. McAra, H. C. Patten, S. E. Preston, S. Sigmundson, N. T. Smith, H. W. Tate and R. N. Watt. The titles of all of the foregoing appear in the accompanying panel of Association officers.

Mr. Furlong's Presidential Address

In his presidential address, at the opening general session, on June 12, the retiring President, Mr. Furlong, stated as in the following.

One of the most astute observers of our time has said: "The future belongs to those who prepare for it."



John Ray, of Sandwich, Windsor and Amherstburg Ry. Co., Presenting His Address

If I were to choose a title for my address today, that would be it. For, most certainly, the future belongs to Canada, provided she is prepared. And that goes for the transit industry as well.

These words suggest to me the most important single challenge facing this nation of 14,000,000 people today. Never has our nation held a more important place in the scheme of things. Never have there been so many real opportunities for national self-improvement. Today, as never before, Canada is on the threshold of new and important developments. They are of such magnitude as to stagger the imagination of even the most patriotic and enterprising. Yet they are realities—not speculation. They are facts —not guesses.

As Canadians, we must be realistic in our approach to the next half century. Most of my listeners will recall that we were brought up to believe that the 20th century belonged to



Allan Harvey, of Provincial Transport Co., Addressing the Meeting on Bus Transportation and the Diesel

Canada. Our national leaders pounded home that message from every political whistle-stop. I believed this as a young man. I still believe it. Even though we may not have achieved all that was hoped for in the first half of the century, we have come far. We did this despite two shattering world wars and a major depression.

I have said we must be realistic. I also believe we must have some of the pioneering spirit and the sheer courage, both moral and spiritual, that fortified those of our ancestors who first settled these shores. I know it may be trite to repeat history, but we learn from history—if we are wise—and I make no apologies for introducing a bit of it now.

It makes me very humble indeed when I think of the struggles and achievements of our immediate an-



W. F. Irvin, of Toronto Transportation Commission, Presenting His Address

cestors in this land. They dared nobly and achieved much under circumstances far more trying and arduous than any we face today. They came to wild, unbroken country, a country half civilized. They faced natural dangers and human enemies whose terrors touched their everyday lives.

Under the most difficult conditions, they set up systems of government and of education which are today the pride of the free world. They developed agriculture, hewed the forests, opened mines and pointed the way to development of our abundant natural resources. They left us a heritage of noble works, performed in the face of terrific odds. Their example remains a challenge. We have no excuse or alibi if we fail. We have ever so much more to work with and work for. Let us not be unmindful of our responsibilities. With resources such as ours we can have no apologies to offer. We have everything. But we must learn to use it.

I am aware of those who disagree with all this optimism. We have pessimists in every generation. We have our doubting Thomases. I can hear them now as they accuse us of being over-developed; over-populated; over-built; over-reaching ourselves.

How utterly and tragically wrong they are. Is there one among you today who can look at this land of ours and not feel proud to be a Canadian? Who is there who will take even the most casual note of our natural resources and not feel it is good to be part of such a land? The Canadian who does not have confidence in the future of his country today is either a blind or unwilling participant in life or he is one who is prepared to disregard all the signs and portents of his time.

Let us get directly into our subject by way of a familiar channel—our own transit industry. In 1939, for example, our industry carried 632,533,152 passengers in 4,530 vehicles operated on our public highways with 14,400 employees to whom we paid



Delegates and Guests at the Meeting.

$18,850,000.00 in annual wages.

Six years later—in 1945—our industry carried 1,316,571,540 passengers in 4,884 vehicles with 20,091 employees to whom we paid $39,364,771.00 in annual wages.

Three years later—in 1948— we carried 1,507,838,191 passengers in 5,604 vehicles, with 22,593 employees to whom we paid $55,268,083.00 in annual wages. Passengers carried in 1949 were 1,504,849,298, practically no change from 1948. The other figures for 1949 are not available, but indications are that wages and numbers of employees are up to some extent.

During 1939-1945 the steady increases were attributed to war production effort, war shortages of tires and gasoline and three 8-hour shifts per day in some places. It was reasonable to expect the high figures would drop when conditions approached normal. But what actually happened?

Four years after the war ended we found ourselves carrying more passengers on the average than we did at any time during the war years. Some companies, it is true, have suffered a small loss in passengers since 1945, but they were chiefly in centres such as Windsor and Kitchener where the three 8-hour shifts per day which were prevalent during the war were replaced by one shift soon after the war, and where the increases during the war amounted to several times any decrease which has taken place since the war. What, then, has been the cause of this steadily maintained patronage of public transportation?

It means simply that there has been a tremendous concentration of population in our cities and towns, bolstered on every side by a steady stream of new immigrants. This, in turn, has brought an increased demand for the kind of transportation we have to offer. I can see no indication of any sudden drop in that increase on the average. On the contrary, we must look forward to an even greater demand for our services as Canada reaches the place in her development for which she is now definitely headed.

So many signs point in this direction that I hesitate even to single them out. I think, however, I can safely mention the ready acceptance given the recent Canadian federal loan. When a nation floats a loan of $750,000,000.00 and the bonds are taken within one minute after the books are opened, there would seem little doubt that smart money investors know a good thing when they see it. In their book, the new Canadian loan was one of those good things. General

Canadian Transit Association

Honorary Advisory Council: Aubrey A. Burrows, President, Acton Burrows Co., Publishers, Canadian Transportation; W. H. Carter, President and General Manager, Winnipeg Electric Co.; W. R. Creighton, Chairman, Ottawa Transportation Commission; V. Cusson, Chairman, Montreal Tramways Commission; Dr. A. E. Grauer, President, British Columbia Electric Ry. Co.; R. G. Ivey, President, The London Street Ry. Co.; Wm. C. McBrien, Chairman, Toronto Transportation Commission; J. N. Sicard, Vice-President and General Manager, Quebec Ry., Light and Power Co.; G. Fraser Stewart, K.C., City Solicitor, City of Regina.

President: J. R. Empringham, Superintendent, Niagara, St. Catharines and Toronto Ry.

Vice-President: P. A. S. Todd, General Manager, The Hamilton Street Ry. Co.

Treasurer: Leonard Tait, Secretary-Treasurer, The London Street Ry. Co.

Honorary Counsel: I. S. Fairty, K.C., General Counsel, Toronto Transportation Commission.

Executive Committee: The President, the Vice-President, the Treasurer, the Immediate Past President (W. H. Furlong, K.C., Chairman and General Manager, Sandwich, Windsor and Amherstburg Ry. Co.), the Honorary Counsel, and E. W. Arnott, Vice President, Vancouver Island Operations, British Columbia Electric Ry. Co.; M. T. Bancroft, Vice President and Comptroller, Quebec Ry., Light and Power Co.; D. E. Blair, Consulting Engineer, Montreal Tramways Co.; R. B. Chandler, Manager, Port Arthur Public Utilities Commission; H. J. Curtis, Vice President and General Manager, Provincial Transport Co.; C. H. Dahl, Manager of Transportation, Winnipeg Electric Co.; A. Duperron, General Manager, Montreal Tramways Co.; T. Ferrier, Superintendent, Edmonton Transit System; D. N. Gill, General Manager, Ottawa Transportation Commission; P. G. McAra, Superintendent, Regina Municipal Ry.; H. C. Patten, General Manager, Toronto Transportation Commission; S. E. Preston, General Manager, Kitchener Public Utilities Commission; Sigurdur Sigmundson, Transportation Operations Manager, British Columbia Electric Ry. Co.; N. T. Smith, Manager, Nova Scotia Light and Power Co.; H. W. Tate, M.B.E., Assistant General Manager, Toronto Transportation Commission; R. N. Watt, President and Managing Director, Montreal Tramways Co.

Secretary: J. F. Neild, Electrical Engineer, Toronto Transportation Commission, 35 Yonge St., Toronto.

Official Organ: Canadian Transportation, 345 Adelaide St. West, Toronto.



Four Groups at the Meeting.



Many Opportunities to Renew Acquaintance Were Presented.

lotors' new five year labour contract most significant for the future.

I might also refer you to recent latements by both the President and xecutive Vice President of Ford of anada. These men are not children their thinking or planning. They ok far ahead. They plan far ahead. suggest to you we would do well to eed their opinions.

Both have emphasized and pointed p Canada's advantages during the ast few weeks. Mr. Rhys M. Sale,



he New President, Mr. Empringham, Immediately Following Election

ord President, in an address to the otary Club of Toronto, declared that here is no room in our country today for the apostles of gloom and despair. He recalled that these gentlemen did much to bring about the last major depression. He emphasized that we did not get a full-blown bust until AFTER the fear complex got a grip on the people.

Mr. Sale pointed out, for example, that immigration during the latter part of 1949 reached about 26,000 per month entering Canada. This is equal in size to many small cities. Thus, every month, we are getting a brand new city and a brand new market.

Mr. Emmert, his Executive Vice-President, emphasized that we have spent most of our time getting abreast of yesterday's requirements.

"Instead of projecting our needs for 10 or 25 years, we seem to be always desperately trying to catch up. Why can't we build for the future? For tomorrow, not yesterday, in the expectation that Canadian industry will continue to expand."

Mr. Emmert, by the way, is one young American who believes that Canada offers opportunity for youth today rather than the reverse thinking of so many Canadians who feel they must leave home to get anywhere. It is refreshing to hear from his kind.

All my information sources lead me to be more than ever convinced that the 20th century most assuredly belongs to Canada. I say that because I consider that we in this country are now at the stage which our friends in the United States were at 100 years ago. In those days Americans were just discovering the worth of their



The Retiring President, Mr. Furlong, Delivering His Presidential Address at the Opening General Session

country's resources. Immigrants were pouring in from all parts of the world. The resulting growth in industry and commerce was beyond the dreams of even the most optimistic. Today I believe our great neighbor is reaching the saturation point. Its resources no longer appear unlimited. It is true they are far from exhausted, but an end is known to exist.

Canada's potential, on the other hand, is scarcely touched. Our rich

(Continued on pg. 399)



The New Executive Committee of the Canadian Transit Association

anding, left to right, A. A. Burrows (President, Acton Burrows Co. and member of advisory council); R. B. Chandler, Manager, Port rthur Public Utilities Commission; H. C. Patten, General Manager, Toronto Transportation Commission; S. E. Preston, Manager, ransportation Department, The Public Utilities Commission of Kitchener; H. J. Curtis, Vice-President and General Manager, Provincial ransport Co.; S. Sigmundson, Transportation Operations Manager, British Columbia Electric Ry. Co.; J. F. Neild, Electrical Engineer, oronto Transportation Commission, and Secretary of the Association. Seated, left to right, I. S. Fairty, K.C., General Counsel, Toronto ransportation Commission; D. E. Blair, Consulting Engineer, Montreal Tramways Co.; W. H. Furlong, K.C., Chairman, Sandwich, Vindsor and Amherstburg Ry.; J. R. Empringham, Superintendent, Niagara, St. Catharines and Toronto Ry. Co.; P.A.S. Todd, General Manager, The Hamilton Street Ry. Co.; L. Tait, Secretary-Treasurer, London Street Ry. Co.

Transit in the Winnipeg Flood

By R. W. Queen-Hughes, of Public Relations and Publicity, Winnipeg Electric Co.

The recent flood in Winnipeg made one fact plain for all to understand. That was, the first importance of public utilities in modern community life. So obvious was this fact to everyone that it had the effect of, in a sense, easing the task of those engaged in maintaining essential services. As far as the transportation system was concerned a number of startling deficiencies in highway communication in the Winnipeg area were revealed. They were specifically—(1) An inadequate number of bridges over the Red and Assiniboine rivers. (2) The fact that approaches to existing bridges are in all cases but one, via under-passes or from low elevation, and (3) The mistake in such flat country of building subways under railway tracks, instead of constructing over-passes. I think it is safe to say that had these principle deficiencies not existed, there would have been very little interruption to public transit except in those areas which were entirely under water. This aspect of the problem will be clearly seen from the pictures I have to show you. On the credit side, the flood demonstrated the capacity of our employees to meet an emergency and demonstrated also their capacity to co-operate with other utilities and agencies. The magnificient effort of the entire community was marked by a particularly remarkable united effort of many diverse elements. There was a minimum of friction with maximum of help. It should be clearly understood that the flood affected mainly the newer residential areas in any serious degree. Industry and commerce as such, suffered comparatively minor loss and the economic future of the community was never at stake. It would seem that town planning bodies should take more notice of natural phenomena that may have a bearing on community growth. It is easy to be wise after an event, but it would appear that if the town planners in Winnipeg had paid heed to the experiences of the past, many low-lying areas of the city would never have been approved for permanent building, either for homes or industry.



R. W. Queen-Hughes,
of Public Relations and Publicity, Winnipeg Electric Co.

On April 15, I received a letter from one of our local radio stations which mildly suggested that southern Manitoba might experience flood conditions this year and at the same time offering the services of the station for the relaying of emergency messages. The letter was received with thanks and, without much concern, filed away for future reference. By May 1st, only 15 days later it became clear that a disaster of the first magnitude could properly be expected. I don't think anybody really foresaw what was to happen. What did happen would have come about much more quickly had it not been for the fact that a slight rise of land in the neighbourhood of the village of St. Agathe, about 30 miles south of Winnipeg, caused the river to pond, with the center of the pond on Morris, Manitoba. This lake of water eventually extended for something like 640 square miles. It had the effect of cushioning the blow to Winnipeg, even if it did prolong the period of flood conditions. This ponding gave the utilities time to complete their diking. As far as the transportation system is concerned, the first effect of the flood was noticed on the west side of the Red river when our suburban bus line to the village of St. Norbert, 12 miles south of Winnipeg, had to be curtailed. Events followed in quick succession. The subway on Osborne street under the Canadian National Railway's main line flooded and severed one of our most important street car routes. Emergency bus service was immediately instituted south of the subway and for the first few days after the flooding of the subway, passengers walked through on the sidewalks which are at a considerable elevation above the street level in the subway. Later this foot passage became impossible and a temporary road had to be opened over the railway tracks.

The next subway to flood was on Higgins avenue at the approach to Louise bridge which crosses the Red river to the Elmwood section of Winnipeg, which lies to the north-east of the downtown area. Our Talbot bus line, operating through this subway and over Louise bridge, had to be discontinued and emergency service instituted via Redwood bridge about a mile further north and the only bridge which remained uninterruptedly open to traffic across the Red river.

By May 5, when we had a terrific



Left, Flood Conditions at the Entrance to the Winnipeg Electric Co. Main Motor Bus Garage. Right, the Broadway-Osborne Area Was Flooded Until Diked Back.



Area Between Norwood and Main Street Bridges, Later Abandonded.

ain and snow storm, and May 6, /hen the rain continued, the situa- ion generally became critical. It was t this point that we almost lost our owntown terminal substation at Mill treet. This fact highlighted the im- ortance of our utilities in a dramatic vay and gave rise to a good deal of ather exaggerated accounts of what vould happen if there was a power ailure. Actually there never was at ny time, a danger of a complete ower shutdown, as Mill street is only ne of four terminal stations operated y Winnipeg Electric Company. The ignificance of Mill street is that it erves the downtown area and in ddition has generator equipment for .c. power serving the downtown sec- ion of the street car and trolley bus system. Mill street also provides all the direct current used in the down- town area for electric motors and elevators in the large offices and warehouses. If Mill street had been flooded out, it would have been a seri- ous blow but not necessarily catas- trophic. By energetic measures, first of all by our own employees, then with the aid of civilian volunteers and on May 7, the arrival of the Canadian Army whose splendid co- operation will long be remembered, Mill street was saved and went on to prepare itself for anything up to 35 feet above datum or 17 feet above flood stage.

While attention was focussed on the battle for Mill street, the transporta- tion system was waging its own struggle. The whole of the suburban municipality of St. Vital flooded, but we continued to operate street cars until they were cut off by the erection of an earth dike across St. Mary's Road at Carriere street in St. Boniface. This trapped a number of cars on the wrong side of the dike. They were operated until it became impossible because of the depth of water. When the whole community was declared evacuated, these cars were parked on the highest ground available which happened to be at the junction of St. Anne's and St. Mary's Road.

After St. Vital was evacuated, we operated emergency bus service in the city of St. Boniface. The rising waters of the Red river creeping for- ward inch by inch, hour by hour, soon made the city of St. Boniface an isolated community as the area between Norwood bridge over the Red river and the Main street bridge which crosses the Assiniboine river became flooded when diking and pumping operations were stopped on the advice of the engineers who were fearful of the safety of Norwood bridge. At the same time the approach via Water street to Provencher bridge, on the edge of downtown Winnipeg flooded, cutting off the final direct road link between the two cities. Until a causeway was built leading to Provencher bridge, the only communi- cation between Winnipeg and St. Boniface was by the Canadian Na- tional Railway's bridge and residents of St. Boniface commuted by train. During this period our buses which were caught in St. Boniface continued



Left, the Provencher Bridge Causeway, Built in Record Time after the Bridge Approach Was Flooded. Right, Beginning of Flooding of Approach to Louise Bridge, Which Was Later Closed to All Traffic.



Left, Flooding of the Main Street Subway under the Canadian Pacific Ry. Tracks. Right, Flooding of St. James Subway, Main Connection to Western Municipalities.

to provide emergency service. Then the Seine river, another tributary of the Red, went on the rampage, flooding an entirely new area in the eastern section of the city of St. Boniface and eliminating bus service on Marion street and Archibald street into the industrial and packing house section of that city. As soon as the causeway, built of rock and gravel, to Provencher bridge was completed, we immediately re-instituted an emergency bus service, in spite of the fact that at least in its initial stages, water was still flowing over the top of the make-shift road.

Meanwhile, subways all over the city were flooding and in many cases could not be pumped out as the sewers were backing up in all the lower lying areas of the city. The approach to Osborne street bridge over the Assiniboine was flooded as was an important intersection at Broadway and Osborne near the Manitoba Legislative Buildings. This remained flooded until a dike was built right across the street and the water contained within a low lying area formed by what had been in early days, a creek.

Pembina subway on the west side of the Red river on highway 75, leading to the United States, which runs through the municipality of Fort Garry and on which our University buses and St. Norbert buses normally operate, filled to the top with water. Needless to say by this stage, the University and a large section of Fort Garry were completely inundated.

The slowly rising Red river caused a similar rise in the Assiniboine river, flooding a large section of the Wellington Crescent residential district and inundating the south approach to the Maryland bridge over which our Academy and Strafford trolley buses normally operate. Frantic diking and pumping prevented the complete closing of this bridge and our trolley buses continued operation throughout the flood, although at one period they had to pass through an area 2 feet under water at the south approach to the Maryland bridge. Rapid building of dikes high enough above the river level enabled the water to be pumped out. Coincident with these events, the St. James subway began to flood, threatening our main street car route on Portage avenue to the municipality of St. James on the west. This subway has a rather curious construction as it starts with a small bridge crossing a creek and then dips down into an under-pass under some railway tracks. The creek, which in normal times is an insignificant muddy stream, burst its banks and ran over the bridge due to water backing up from the Assiniboine river. Gigantic electric pumps were rushed in from our power plants and quickly erected and wires strung up by our Overhead Lines department to operate them. Army and volunteer dikers sandbagged the little bridge over the creek and all ordinary traffic was stopped from going through this area. Our street cars, however, continued to operate even although at one point water more than covered the trucks of the cars. Thousands of sand bags were dumped between the tracks to hold them down against the pressure of the rising water. Then the pavement on either side of the tracks burst and trucks were rushed with gravel to fill the holes while the pumps ran full blast. This particular situation was barely under control when the subway under the Canadian Pacific Railway Station tracks at Main street flooded through the sewers, again threatening all northbound street car traffic on our main line. Vigorous action prevented a complete tie-up at this point and continuous pumping for two weeks kept this main artery functioning. After the flooding of the area between Norwood bridge and the Main street bridge mentioned earlier, a huge lake was formed by the confluence of the Red and Assiniboine rivers, and still the slow inch by inch rise of the river went relentlessly on.

Our main trolley bus garage, located on Main street alongside the north approach to the Main street bridge, started to flood and Assiniboine avenue—which neatly bisects our motor bus garage facilities—flooded to a depth of 3 to 4 feet. This made it impossible for us to use our trolley bus garage and trolley buses had to be stored on higher ground on the streets. The problems created by these events in the way of maintenance and servicing, I leave to your imagination. The basements of all our garage and shop buildings flooded completely in this area adding one further complication, but transit continued to operate and apart from the areas directly affected by the flood, did so without interruption.

Fortunately, connections to the north end of the city over the Canadian Pacific Railway trackage on both sides of Sherbrooke street and west of Main street are by high approaches rather than by under-passes. This fact alone saved from disruption our trolley bus service into the north end of the city. The effect of all this on our transit revenue was considerable as it is estimated over 100,000 persons were evacuated from Greater



Pembina Highway Subway, Flooded to Top



Left, the Osborne Street Subway Filled with Water. Right, Marooned Electric Railway Cars at St. Mary's and St. Anne's Roads in St. Vital.

Winnipeg to towns and cities all across the country. The cost of operating under these conditions and the damage to equipment was also considerable. During this time there was in Winnipeg much the same feeling that existed during the critical days of the war. People worked long hours without complaint at unaccustomed tasks. In spite of the anxiety for homes and material possessions and the constant worry about disease, which would appear to have been rather over done, a good deal of humour was extracted from the situation. Many are the stories going around in Winnipeg arising from the flood and no conversation is possible in Winnipeg today without reference to this shattering event. It has taught us that Winnipeggers can work together enthusiastically and unselfishly, and with leadership are capable of surmounting any difficulty.

With these few preliminary remarks I would like to illustrate now by slide film some of the outsanding events in this greatest flood in Winnipeg's history as a city.

C.T.A. Meeting

(Continued on pg. 395)

promise of return from natural resources never was better put than in the words of the old prospector. Asked if he thought we had found all our gold, he replied: "Hell, this country ain't even been hen-scratched yet."

In times of relative prosperity such as we are now experiencing, those who never seem to get out of the old rut are still with us. I can remember, as many of you here can, the days before World War I, when the high cost of living was the target for everybody who appeared publicly. We got so familiar with it we abbreviated it in our conversation and called it the "H.C.L." and it was bandied about as a choice topic of conversation. The consequences of loose talk about those days seem to have taught some of us very little. I hear constantly, as you do, about the days when eggs were six dozen for a dollar and butter was 25 cents a pound, and fares were a nickle apiece.

We are reminded that today's relatively high prices are bad for everybody and bad for the future. We should do something about them, we are told. Well, let me say with all the emphasis I can command, I would rather a thousand times have high prices and prosperity than low prices and depression.

(The remainder of Mr. Furlong's address will appear in the August issue.)

Trolley Coaches Delivered

In the period May 15 — June 15, Canadian Car and Foundry Co., Ltd., Automotive Division, delivered 39 model T-48, 48-psgr. trolley coaches to British Columbia Electric Ry. Co., Vancouver, and seven model T-44, 44-psgr. trolley coaches to Montreal Tramways Co.

Safety Award in Vancouver

Annual award in Vancouver for making the "most outstanding contribution to traffic safety in the past 12 months" was recently given to Colin Dobell, British Columbia Electric Ry. Co. Director of Transportation Safety and Training.

The award, a symbolic three-foot safety pin, was presented to Mr. Dobell by A. S. McMorran, Assistant City Prosecutor, at a joint meeting of the Vancouver Traffic and Safety Council and the Junior Chamber of Commerce. Police and civic officials also attended.

Mr. Dobell, chairman of the committee which organized automobile driver's training for students in British Columbia high schools last year, was also active in promoting alcohol tests for drivers suspected of being intoxicated.

Work to establish a central bureau in Victoria, to co-ordinate and increase provincial highway safety, was another project for which Mr. Dobell was cited.

The safety award was won by Walter Cog Harrington and Inspector John Dunn, Vancouver police force, in previous years.

(An illustration showing Mr. Dobell viewing his award appeared in the June issue, pg. 324.)

Mainly About Transit People

H. R. Holder, who has retired from the position of Superintendent of Maintenance, Autobus Department, Montreal Tramways Co., was born in England and came to Canada in 1906. A graduate in Electrical Engineering from London University, he was associated with Laurie and Lamb, Dominion Light, Heat and Power, Montreal Public Service Corporation and Quebec, New England Hydro before he joined the Montreal Tramways Co. In 1925, Mr. Holder was appointed Autobus Department Superintendent, to organize the Autobus Department of the Montreal Tramways Company. He pioneered in this field, and built up an enviable reputation in automotive maintenance throughout the industry.



J. H. Levasseur,
who has retired from the position of Superintendent, Transit Division, Quebec Railway, Light and Power Co., after 50 years and nine months of service.

J. H. Levasseur has retired from the position of Superintendent, Transit Division, Quebec Railway, Light and Power Co., after nearly 51 years of service. As recorded in our issue of November last, he, along with H. G. Bosse and J. A. Cote, was honored at a dinner given by President James Wilson, O.B.E., of Quebec Power Co. and Quebec Railway, Light and Power Co., which marked his fiftieth anniversary with the companies. He was appointed Superintendent, Autobus and Tramways Division, Quebec Railway, Light and Power Co., January 1, 1939. He was born June 27, 1877, at St. David of Levis. He entered Quebec Railway, Light and Power Co. service as a motorman on June 24, 1899. In 1907 he was appointed night clerk, and was made Traffic Inspector in 1908. In 1912 he was appointed Chief Inspector, and in 1916, Assistant Superintendent, continuing to carry out the duties of Chief Inspector. At the dinner given by Mr. Wilson, Mr. Levasseur was presented with a cheque, and with a table radio for his wife.

W. J. Marshall.—Recent announcement by Ivor W. Neil, General Manager of Transportation, British Columbia Electric Ry. Co., is that Walter J. Marshall has been appointed Freight Traffic Manager. In addition to his present duties as General Freight and Passenger Agent, Mr. Marshall will in future supervise all company freight and passenger agencies, with the exception of the offices at Davie and Carrall streets, Vancouver.

Jean Paul Page has been appointed Superintendent, Transit Division, Quebec Ry., Light and Power Co., succeeding J. H. Levasseur, retired.

H. W. Royl, who has been appointed Superintendent of Maintenance, Autobus Department, Montreal Tramways Co., is a graduate in engineering from the University of Toronto and worked for Horton Steel Works as Contracting Engineer from 1936 to 1941. In 1941 he enlisted with the Royal Canadian Electrical and Mechanical Engineers, serving during four years both in Canada and overseas as a specialist in heavy vehicle maintenance. Upon discharge from the service he joined the Montreal Tramways Co. as Mechanical Engineer in the Autobus Department, and shortly after was promoted to Assistant Superintendent of Maintenance.

Toronto Transportation Commission
Twenty-Eighth Annual Statement

H. E. McCallum, Esq., Mayor
and Members of the Council
of the Corporation of the City of Toronto.

Gentlemen: Your Commissioners submit herewith the Annual Statement of the Toronto Transportation Commission for the year 1949.

It is with great regret that we record the loss to the Commission and the City of Toronto through the death of Mr. William Croft on October 31st, 1949. Mr. Croft's public service included that of Alderman, representing Ward 9 in 1937 and 1938. Following his appointment to the Transportation Commission on June 26th, 1939, he became its Vice-Chairman on June 28th, a position he held until his death. The vacancy on the Commission thus created was filled through the appointment of Mr. Charles A. Walton by City Council on November 28th, 1949. Mr. William G. Russel was elected Vice-Chairman of the Transportation Commission at its meeting on December 1st, 1949.

The Commission is glad to report that the financial results of operation of the transportation services under its direction were satisfactory for the year 1949. The gross revenue of $26,458,351.90 again established a new high record, being nearly $915,500.00 over the year 1948, the previous high year. The benefit of the increased revenue however was more than offset by an increase of over $1,900,000.00 in the cost of providing the service, with the result that the net income of the system for 1949 was only a small fraction of that for the year 1948.

The number of revenue passengers carried in 1949 on the street cars and buses of the city system totalled 313,764,372, an increase of 2,608,399 over the number carried for 1948, or .84 per cent. Passenger traffic reached an all-time high in 1949.

Operating expenses for 1949 were 7.91 per cent. greater than for the preceding year, and were also the highest on record. This increase in expenses reflects not only continued expansion and improvement in the transportation services, but also higher wages paid and other benefits granted to the employees of the Commission, and further increases in the cost of materials and supplies.

Operation of Gray Coach Lines for 1949 produced results similar in trend to those for the city street railway and bus system. Although the gross revenue was by far the highest for any year in the experience of the Company, the net balance, after paying all operating expenses, providing for depreciation and paying the usual dividend to the Transportation Commission, was only $1,000.78 to be carried to surplus. This compares with $8,503.27 carried to surplus for 1948, and much larger amounts in previous years.

Operating of the Island Ferry Service which the Commission took over from the City in 1948 continues to be a burden. The deficit for 1949 was $92,392.05 as compared with a deficit of $84,701.88 for 1948.

Notwithstanding the narrowing of the margin between revenues and expenses each year since the end of the war, your Commission has continued to make extensive improvements to the system to meet the demands of the ever expanding industrial and business life of the City of Toronto.

Capital expenditures during 1949 alone were in excess of $9,500,000.00, which amount included one hundred new multiple-unit streamline street cars, thirty new motor coaches, and large expenditures on account of the rapid transit project. Additional equipment on order at the end of the year included fifty street cars, twenty-five buses and motor coaches, and one ferry boat, of which ten buses and six coaches have been received in 1950 up to the date of this report.

From the beginning of 1946 and up to the end of 1949 capital expenditures in the amount of over $27,700,000.00 have been made, of which $4,308,000.00 was for the rapid transit project. For the year 1950 capital expenditures already authorized amount to over $5,000,000.00, exclusive of the amount required for the subway.

In July 1949, after many years of planning and preparation, the Commission awarded contracts for the beginning of actual construction work on the Yonge Street rapid transit line, Canada's first subway, and on September 8th the contractors commenced work. The contracts awarded cover construction of a subway on Front Street from the Union Station to Alexander Street, north of Carlton Street on Yonge Street. At the date of this report, work is proceeding very satisfactorily and somewhat ahead of schedule.

The contract has now been awarded on the next sections of the rapid transit line from Alexander Street to a point opposite Mount Pleasant cemetery on the west side of Yonge Street, and work on these sections should start during the summer of 1950. Construction will differ from the work now proceeding on Yonge Street, as the line north of Alexander Street will be built on private right-of-way about 150 feet east of Yonge Street, and will include some open cut sections.

The Commission has been greatly encouraged by the splendid spirit of co-operation and interest evidenced by all in this major civic improvement, and desires to express its sincere appreciation and the thanks of the entire construction and engineering personnel for the help readily extended by the civic authorities and officials, public utilities and numerous other business organizations in solving the many problems involved.

More detail regarding the operating results for 1949, together with the difficult problem now facing the Commission of meeting the ever increasing cost of operating the system, is dealt with in the Annual Report made by the General Manager to the Commissioners, which is approved by them and transmitted herewith.

The books and accounts of the Commission for the year have been audited by Messrs. Price, Waterhouse & Co., and their certificate is attached to the financial statements accompanying this report.

Respectfully submitted.

Wm. C. McBrien, Chairman.
Wm. G. Russell, Vice-Chairman.
Chas. A. Walton, Commissioner.

Report, in Part, of the General Manager

Gentlemen:

I submit herewith a review of the operations of the Toronto Transportation Commission for the year 1949, including the Island Ferry service, and the Motor Coach transportation services which are carried on by its subsidiary, Gray Coach Lines, Limited.

The financial results for the year 1949 as compared with 1948 were as follows:

	1948	1949
Gross Revenue	$25,542,866.12	$26,458,351.90
Expenses of Operation, Maintenance and Depreciation, etc.	$24,038,022.94	$25,939,003.59
	$ 1,504,843.18	$ 519,348.31
Less: Island Ferry Deficit	$ 84,701.88	$ 92,392.05
Balance of Income before Interest and Appropriations	$ 1,420,141.30	$ 426,956.26
Interest on Debenture Debt	$ 399,053.33	$ 302,145.00
Balance of Income	$ 1,021,087.97	$ 124,811.26
Appropriations for Reserves	$ 900,000.00	$
Balance of Income carried to Accumulated Surplus	$ 121,087.97	$ 124,811.26

Income Account:

Gross Revenue of the Commission from all sources, exclusive of the Island Ferry service, was $26,458,351.90

for 1949. This compares with $25,542,866.12 for 1948, an increase of $915,485.78. The gross revenue for 1949 was the highest for any year in the history of the Commission. There has been an increase over the preceding year for each of the last fourteen years.

An analysis of the increase in gross revenue of $915,485.78 in 1949 shows a gain of over $173,000.00 in passenger revenue on the city street railway and feeder bus system, and an increase of over $683,000.00 in passenger revenue of Gray Coach Lines. The interest earned on invested funds and bank balances in 1949 decreased about $113,000.00, and the revenue from sundry other sources increased about $172,000.00.

A comparison of the total expenses of operation of the consolidated system in 1949 with the similar expenses of 1948, exclusive of the Island Ferry operation, shows an increase of about $1,900,000.00, or 7.91 per cent. Operating expenses again reached a new high record and reflect the constantly mounting cost of providing service and improvements thereto, higher wage rates and other benefits granted to employees, and the increased cost of materials used in maintenance and operation of the system.

As pointed out last year, the transportation system since January 1st, 1948, has carried the additional burden of the deficits from the Island Ferry service. For the year 1949 this deficit was $92,392.05, and there seems little possibility of any reduction of this loss.

The annual mileage of service provided the public for 1949 by street cars, buses and trolley coaches was approximately the same as in 1948. The mileage operated by Gray Coach Lines was the highest of any year in the Company's experience.

Balance Sheet:

Capital Assets in Road and Equipment, including Gray Coach Lines, Island Ferries, and expenditures on the Rapid Transit project, were $74,843,981.34, as compared with $66,402,212.67 at the end of the year 1948, an increase of over $8,440,000.00.

Investment in Canadian, Federal and Provincial Government and Municipal Bonds totalled $8,348,081.86 on December 31st, 1949, a decrease of more than $6,990,000.00 when compared with the amount so invested at the end of the year 1948.

As is indicated on the Balance Sheet, these invested funds have been "held for equipment renewals and for modernization and expansion of the system," and the amount withdrawn has immediately been used for these purposes, of which the most important single project is the Yonge Street rapid transit line. The balance remaining of the invested funds will also be so used. By the middle of 1950 it will be necessary for the Commission to obtain additional funds by further borrowing in substantial amounts, a procedure the Commission has not resorted to since 1923.

Like the original debenture debt of the Commission in 1921, 1922 and 1923 of some 42 million dollars, these funds will be provided by the sale of City of Toronto debentures. The payment of annual interest and principal repayments on such debentures will of course be wholly the responsibility of the Commission.

It must be emphasized, however, and is clearly shown on the Balance Sheet, that the debenture debt of the Commission outstanding as of December 31st, 1949, was only $3,618,916.66, a reduction of $1,788,666.67 during the year. This original debt of $42,123,126.10 will in fact be completely retired in 1953, and as the average rate of interest on these bonds for the last thirty years was about 5.8 per cent., it is anticipated that new borrowings at rates of interest presently obtainable will constitute much less of a burden.

There has been little change in the Commission's reserves during 1949. The Reserve for Modernization and Expansion of the System is the same amount as at the close of the year 1948. The Reserves for Revenue (fare) Stabilization and for Contingencies are in the same position, nothing having been added or deducted during the year 1949.

In the group of Operating Reserves, the Reserve for Redemption of Outstanding Tickets has not been changed during 1949, but the Reserve for Workmen's Compensation and Public Liability shows a balance of $2,045,164.72, an increase of over $30,500.00 during the year. The Reserve for Foreign Exchange shows a decrease of $38,917.33 from the total at the end of 1948. This is due to the premium of one-half of one per cent., effective to September 19th, 1949, and ten and one-half per cent. during the balance of the year, paid for United States funds on the amount of debenture debt principal payments and interest charges payable in United States funds. As there is still a balance of debenture debt having a par value of $2,226,000.00 which is payable serially up to 1952 in United States funds, both as to principal and interest, it is considered advisable to maintain this reserve.

Fares:

The average fare on the city system of the Transportation Commission in 1949 was 6.158 cents, and no city on this continent at all comparable has a lower fare.

In comparison, the average fare at the end of 1949 in the United States in all cities of 50,000 population or larger (except New York) had risen to 10.49 cents, or over seventy per cent. more than the Toronto average. During the past year several more United States cities have had to increase fares (two—in Detroit and Chicago, to 15 cents). At the date of this report the United States average fare is now about 11 cents, or nearly eighty per cent. above the Toronto average.

While the Commission takes pride in the fact that careful and efficient operation, combined with the very high revenues of the war period, has thus far made it possible to maintain the same fare established in 1921, it is obvious from an examination of the operating results since 1945 that this fortunate position cannot continue much longer if the same high standards of service are to be provided.

The Commission, it is true, has provided a reserve for fare stabilization which it will take into account as circumstances may dictate, but this reserve was designed more as a cushion for periodic economic fluctuations rather than for permanent upward changes in the level of wages and prices.

Track System and Bus Routes:

No extensions to the track system were made during the year.

Replacement of the existing track to the extent of two miles was carried out in 1949. The principal reconstruction work included:

Bloor Street: From Indian Road to Oakmount Road.
Bloor Street: From Quebec Avenue to Runnymede Road.
Queen Street: From the Don Bridge to Broadview Avenue.

Rebuilding of twenty-eight track intersections was also carried out in 1949.

As of December 31st, 1949, the totals of route miles of electric trolley coach, motor bus and motor coach routes owned or operated by the Commission were as follows:

Track owned by the Transportation Commission	226.58 miles
Track operated by the Transportation Commission for the Township of York	8.62 miles
Total track owned and operated	235.20 miles

As of December 31st, 1949, the totals of electric trolley coach, motor bus and motor coach routes owned or operated by the Commission were as follows:

City Motor Bus and Coach Routes	78 54 miles
City Electric Trolley Coach Routes	12.29 miles
Interurban Coach Routes	1,170.26 miles
Motor Bus Routes in Forest Hill, Leaside, the Townships of East York, North York, York, Etobicoke, Markham and Vaughan, and the Village of Richmond Hill	46.13 miles
Electric Trolley Coach Route—Township of York and Town of Weston	3.69 miles
Total electric trolley coach, motor bus and motor coach route miles	1,310.91 miles
The total mileage of track and the route mileage of motor bus, coach and trolley coach routes as of December 31st, 1949, was	1,546.11 miles

Buildings:

Two new electrical substations, one on St. Clair Avenue near Weston Road, and one on Annette Street near Runny-

mede Road, equipped with the latest fully automatic ignitron rectifiers, were constructed and put into operation during 1949.

A new shop for the track maintenance staff and an extension to the building used by the Buildings Maintenance organization were also built.

Rolling Stock:

As of December 31st, 1949, the Commission owned 1,029 passenger street cars, 85 electric trolley coaches, 64 electric service cars which include 23 snow sweepers and 17 snow plows and scraper cars, 597 buses and coaches, 47 motor trucks, and 15 motor snow ploughs and sanders, or 1,837 vehicles in all. The Commission also owned 5 passenger ferry boats, 2 motor launches and 2 freight boats.

One hundred modern multiple-unit street cars were received during the year.

Thirty new motor coaches were added to the fleet of Gray Coach Lines.

Thirty-eight vehicles, including street cars, buses and coaches, were retired or sold.

New equipment ordered but not delivered at the end of 1949 included 50 street cars and 25 buses and coaches

Routings and Service:

Various improvements were made to the street car and bus services of the city system during the year.

On August 15th new multiple-unit type street cars of the latest design were placed in operation on Bloor Street and have been most successful in providing improved service on this important route. Public approval of this double car system of operation has been marked.

The completion by the City of the widening of Spadina Avenue from Bloor Street to Dupont Street enabled the Commission to extend the Spadina Avenue bus line, thus providing a much needed through transportation service from Fleet Street to Dupont Street.

There were also several changes affecting transportation routes in adjoining municipalities.

On March 1st the Queensway bus route was extended to the Long Branch loop, thus providing a through connection from the Kingsway district to the lake shore.

On April 1st a new bus route on Briar Hill Avenue for the Township of York commenced operation.

On December 5th a new bus route on Sheppard Avenue commenced operation for the Township of North York.

On December 17th gasoline buses in the Town of Weston were replaced by electric trolley coaches, completing the entire Weston Road route, from Dundas Street to the north limit of the Town of Weston, to an all-electric trolley coach route.

Operation in Outside Municipalities:

The Commission operates either railway, bus or electric trolley coach transportation facilities in ten adjoining municipalities under special agreements which impose no financial obligation on the Commission or the City of Toronto.

Island Ferry Service:

The 1949 season for ferry operation to Toronto Island opened on April 14th and closed on November 30th.

The financial result of this operation for 1949 was a deficit of $92,392.05 as compared with a deficit of $84,701.88 for the 1948 season.

This service has always operated at a loss, and no financial improvement can be expected in the future under the terms of the present agreement between the City and the Commission.

The ferry fleet is in good and safe operating condition. One new diesel passenger boat of 1,000 passenger capacity is now in the course of construction. This new vessel, which is to be named the "Thomas Rennie", should be ready for service during 1950. It will replace the small steam passenger boat, the "T. J. Clarke", which will hereafter be used for freight service only.

Gray Coach Lines, Limited:

All of the city and interurban transportation services of the Commission carried on at special rates of fare, separate from the city street railway and feeder bus system, are operated by its subsidiary company, Gray Coach Lines, Limited.

The financial results of the Company for 1949 are included in the consolidated statements accompanying this report, and are also shown in separate statements attached hereto.

As compared with 1948 the results for 1949 were as follows:

	1948	1949
Gross Revenue	$5,339,438.90	$6,039,437.60
Expenses of Operation, Maintenance, Depreciation and Taxes, etc	$5,280,935.63	$5,988,436.82
Balance of Income before Dividend	$ 58,503.27	$ 51,000.78
Dividend at 5 per cent. paid to Toronto Transportation Commission	$ 50,000.00	$ 50,000.00
Balance of Income carried to Accumulated Surplus	$ 8,503.27	$ 1,000.78

The results of Gray Coach Lines' operation for 1949 were affected greatly by continued increase in the costs of operation like the city transportation system. Although the total gross revenue was much the highest for any year in the experience of the Company, the balance of income available for dividend and surplus was the lowest since 1941.

Gross Revenue was $6,039,437.60, an increase of nearly $700,000.00, or 13.11 per cent. when compared with the year 1948.

Operating expenses, including depreciation and taxes, etc., increased over $707,000.00, or 13.40 per cent., due to an increase of 10.16 per cent. in the coach miles operated, higher wages, higher taxes, and increases in costs of maintenance and operating supplies.

A new passenger terminal station was constructed and opened in the city of Kitchener to take care of the growing business in that city.

The Company owned 359 revenue passenger coaches as compared with 338 at the end of 1948. Thirty new coaches were purchased, and nine old vehicles were sold during the year. On December 31st, the Company had on order fifteen coaches for delivery in the early summer of 1950.

Conclusions:

No one who has followed the development of Canada during the last thirty years can doubt that this country has a great and expanding future, and that the City of Toronto is destined to share this growth to the full.

If the Commission did not share this belief it would not have proceeded with its plan for rapid transit lines, nor would it have taken such an active part in planning transportation facilities for adjoining municipalities in the metropolitan area. For many years the Commission has realized that the entire area which now has a population in excess of a million people, must eventually be treated as a unit as far as transportation is concerned.

The proposals of the City with respect to amalgamation of several of the surrounding municipalities, at the date of this report, are of vital interest to the Transportation Commission, and, if carried out, will have far reaching effect on its operations. The present area of the city served by the Commission is 35 square miles. The proposed area to be included with the city of Toronto would increase this to 240 square miles, or about seven times the present territory covered by the single fare system now in effect.

The problems which this enlargement of the city will bring to the Commission will be many. They are being studied with a view to their best solution, and the Commission believes the citizens of Toronto and of the other municipalities can rest assured that, if and when amalgamation is an accomplished fact, adequate and satisfactory transportation services will be provided for them at reasonable cost.

It has already been stated that in common with all public transportation systems, the Commission has experienced a serious narrowing of the margin between revenues and expenses, as the costs of operation continue to climb higher and more than off-set any increase in passenger revenue. At the date of this report, in fact, operating expenses are considerably in excess of revenues.

Consideration of a higher fare in these circumstances cannot long be deferred in any event, and it must be pointed out that if amalgamation does take place and the Commission is thereby obligated to provide service over much greater areas, an immediate and probably larger adjustment in the rate of fare will almost certainly be required.

It is unnecessary to state that the obligation placed upon the Commission by statute is to make its services self-sustaining.

This report would not be complete without paying tribute to the loyalty and efficiency of the entire Toronto Transportation Commission organization throughout the year.

Sincere appreciation is extended to the Toronto Civic Administration, to all Civic Authorities in the other municipalities in which the Commission operates, to the Ontario Municipal Board, the Department of Highways of the Province of Ontario, the City Planning Board, the Board of Trade, and to the Public generally for their support and co-operation. The Commission is especially appreciative of the patience and cordial co-operation of the many business organizations and all of those citizens who have been and are being inconvenienced in various ways by the construction of the rapid transit subway.

Yours faithfully,

H. C. PATTEN.
General Manager.

Consolidated Balance Sheet, December 31, 1949

Assets

Capital Assets:		
Road and Equipment, at cost, including land, buildings, power distribution system, trackwork, rolling stock, buses, ferry boats etc.	$70,536,268.16	
Rapid Transit project	4,307,713.18	
	$74,843,981.34	
Mortgages receivable on property sold	50,216.63	
		$74,894,197.97
Invested Funds:		
Held for equipment renewals, and for modernization and expansion of the system — temporarily invested in Canadian Federal, Provincial and Municipal bonds, having a market value of $8,449,702		8,348,081.86
Current and Working Assets:		
Inventories of operating supplies valued on the basis of cost, as certified to by the management	$ 1,980,381.63	
Working funds advanced to agents, conductors, etc.	534,983.95	
Unexpired insurance premiums, etc.	108,306.14	
Trade accounts receivable, less reserve of $3,049.28 for estimated losses	691,448.93	
Interest accrued	46,905.42	
Cash on hand and in banks	1,765,249.29	
		5,127,275.36
Note:		
The outstanding debentures shown on the above balance sheet include debentures having a par value of $2,226,000.00 in Canadian dollars, which are payable serially up to 1952 as to principal and interest in United States funds, at the holder's option. A reserve of $516,003.77 for foreign exchange is carried in respect of whatever premium the Commission may have to pay in connection with these debentures		$88,369,555.19

Liabilities and Reserves

Capital and Surplus:			
Corporation of the City of Toronto:			
For debentures issued for transportation purposes		$42,123,126.10	
Less: Debentures redeemed to Dec. 31, 1949	$37,659,126.10		
Accrual for redemption of debentures which mature in 1950	845,083.34	38,504,209.44	
			$ 3,618,916.66
Earnings invested in improvement and expansion of the system:			
Reserves for:—			
Modernization and expansion of the system		$14,550,000.00	
Revenue (fare) stabilization		3,800,000.00	
Contingencies		3,840,007.93	
		22,190,007.93	
Accumulated Surplus		5,420,553.51	27,610,561.44
			$31,229,478.10
Reserve for Depreciation and Armortization of Capital Assets			48,452,828.61
Operating Reserves:			
For redemption of outstanding tickets		$ 430,334.06	
For workmen's compensation and and public liability		2,045,164.72	
For foreign exchange		516,003.77	
			2,991,502.55
Current Liabilities:			
Accounts payable and accrued liabilities		$ 4,396,171.57	
Balance of 1943 and 1946 provisions for traffic improvements, payable to City of Toronto as expended		444,022.69	
Accrual for debenture interest		10,468.33	
Accrual for redemption of debentures		845,083.34	
			5,695,745.93
			$88,369,555.19

Gray Coach Lines, Limited, Balance Sheet, December 31, 1949

Assets

Capital Assets:		
Motor coaches, land, buildings and other equipment, at cost		$ 6,849,228.06
Invested Funds:		
Held for equipment renewals, and for modernization and expansion —temporarily invested in Canadian Federal, Provincial and Municipal bonds, having a market value of $1,421,035.00		1,408,610.18
Current and Working Assets:		
Working funds advanced to agents and employees	$ 8,435.00	
Unexpired insurance premiums, etc.	7,067.27	
Trade accounts receivable less reserve of $1,217.85 for estimated losses	61,798.38	
Interest accrued	11,193.75	
Cash on hand and in banks	782,412.26	
		870,906.66
		$ 9,128,744.90

Capital, Reserves and Liabilities

Capital and Surplus:			
Capital stock:			
Authorized and issued— 10,000 shares of $100.00 each			$ 1,000,000.00
Earnings invested in improvement and expansion of the service:			
Reserves for:			
Modernization and expansion		$ 1,150,000.00	
Contingencies		829,489.80	
		$ 1,979,489.80	
Accumulated Surplus		896,107.28	2,875,597.08
			$ 3,875,597.08
Reserve for Depreciation and Armortization of Capital Assets			4,043,489.43
Operating Reserves:			
For redemption of outstanding tickets		$ 10,214.03	
For workmen's compensation and public liability		500,000.00	
			510,214.03
Current Liabilities:			
Accounts payable and accrued liabilities		$ 649,444.36	
1949 dividend of 5 per cent. payable to Toronto Transportation Commission		50,000.00	
			699,444.36
			$ 9,128,744.90

Comparative Consolidated Income Account

	1948	1949
Revenue:		
Passenger Earnings:		
Railway and bus transportation	$19,358,742.81	$19,532,049.43
Motor Coach transportation	5,197,954.90	5,881,564.08
Interest on invested funds, bank balances, etc	445,262.23	332,314.46
From sundry other sources	540,906.18	712,423.93
Gross Revenue	$25,542,866.12	$26,458,351.90
Expenses:		
Cost of electric current, including maintenance and operation of substations	$ 1,415,855.07	$ 1,479,585.89
All other expenses (except those dealt with below) including maintenance, repairs, taxes and administration	19,410,250.10	20,899,826.26
Provisions for:		
Depreciation and amortization	2,659,917.77	3,004,341.36
Workmen's compensation and public liability	552,000.00	555,250.08
Total Expenses	$24,038,022.94	$25,939,003.59
	$ 1,504,843.18	$ 519,348.31
Less: Island Ferry Deficit	84,701.88	92,393.05
Balance of Income before interest and appropriations	$ 1,420,141.30	$ 426,956.26
Interest on debentures	399,053.33	302,145.00
Balance of Income	$ 1,021,087.97	$ 124,811.26
Deduct:		
Appropriated to the following reserve: Modernization and expansion of the system	$ 900,000.00	$
Balance of Income for the year, carried to accumulated surplus	$ 121,087.97	$ 124,811.26

Comparative Consolidated Income Statement

	Gross Revenue	Expenses including Depreciation	Balance of Income	Debenture Interest
1921 (4 months)	$4,071,969.73	$3,260,103.50	$ 811,866.23	$ 474,900.77
1922	11,651,512.49	9,695,834.54	1,955,677.95	1,580,774.53
1923	11,852,334.63	9,489,099.21	2,363,235.42	2,120,936.87
1924	11,709,695.28	9,330,270.36	2,379,424.92	2,242,237.45
1925	11,626,658.70	9,310,775.55	2,315,883.15	2,207,819.39
1926	12,050,304.23	9,679,858.08	2,370,446.15	2,233,494.92
1927	12,635,320.15	10,150,206.14	2,485,114.01	2,180,458.26
1928	13,269,718.47	10,889,778.00	2,379,940.47	2,133,209.62
1929	14,498,624.12	11,897,145.91	2,601,478.21	2,124,796.06
1930	14,068,379.51	11,838,503.35	2,229,876.16	1,982,506.83
1931	12,800,638.67	11,048,813.68	1,751,824.99	1,925,703.50
1932	11,243,785.48	9,719,141.50	1,524,643.98	1,860,956.72
1933	10,293,212.46	8,887,177.62	1,406,034.84	1,754,280.09
1934	10,570,097.77	9,129,159.49	1,440,938.28	1,681,218.71
1935	10,516,795.96	9,079,957.70	1,436,838.26	1,611,647.06
1936	10,650,096.34	9,119,506.53	1,530,589.81	1,518,512.69
1937	10,900,677.59	9,231,746.68	1,668,930.91	1,423,047.50
1938	11,047,066.49	9,609,047.10	1,438,019.39	1,342,992.50
1939	11,229,117.87	9,856,888.54	1,372,229.33	1,257,284.99
1940	12,210,884.76	10,370,644.80	1,840,239.96	1,163,106.67
1941	14,368,501.08	11,699,793.09	2,668,707.99	1,029,818.33
1942	18,011,328.27	13,926,325.55	4,085,002.72	942,469.17
1943	20,361,375.81	16,136,202.75	4,225,173.06	849,675.00
1944	21,813,848.37	16,423,331.77	5,390,516.60	751,624.16
1945	23,032,249.87	17,486,650.72	5,545,599.15	653,855.84
1946	24,503,516.89	19,783,923.60	4,719,593.29	573,327.50
1947	24,803,830.51	22,305,179.45	2,498,651.06	489,274.17
1948x	25,705,327.62	24,283,686.32	1,421,641.30	400,553.33
1949x	26,621,196.15	26,193,219.89	427,976.26	303,165,00

x—Island Ferry figures included in the respective columns.

Comparative Statistics
Revenue Passengers
(CITY SYSTEM)

1921 (4 months)	61,870,213	1935	148,715,656
1922	187,145,261	1936	150,135,192
1923	189,143,145	1937	150,443,631
1924	185,203,698	1938	150,572,316
1925	180,779,925	1939	154,089,720
1926	183,494,076	1940	168,147,272
1927	187,757,023	1941	193,608,478
1928	193,642,927	1942	238,991,803
1929	206,822,838	1943	278,539,341
		1944	293,799,883
1930	199,522,863	1945	303,350,348
1931	182,923,203	1946	310,115,600
1932	161,623,302	1947	307,590,938
1933	147,582,487	1948	311,155,973
1934	150,826,100	1949	313,764,372

Month	1947	1948	1949
January	27,218,485	26,780,119	26,664,990
February	25,176,718	25,165,818	25,138,975
March	27,266,921	27,481,089	28,210,853
April	25,955,319	26,204,011	26,583,539
May	26,282,470	25,934,192	26,410,597
June	24,174,053	25,274,649	25,718,012
July	22,836,752	23,083,939	22,683,923
August	23,327,125	23,312,019	23,949,533
September	25,060,638	26,197,354	26,132,278
October	26,843,622	26,479,541	26,954,055
November	26,257,899	27,362,879	27,411,833
December	27,190,936	27,880,363	27,905,784
	307,590,938	311,155,973	313,764,372

Gray Coach Lines, Limited
Comparative Income Account

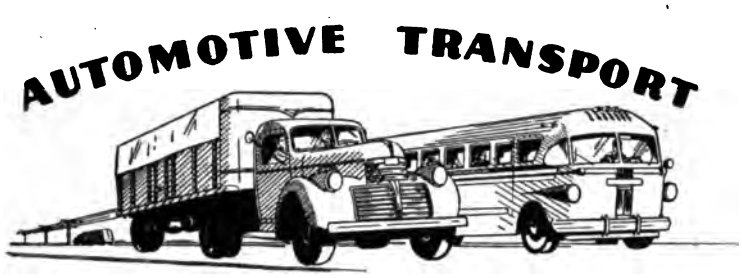
	1948	1949
Revenue:		
Passenger Earnings:	$ 5,197,954.90	$ 5,881,564.08
Interest on invested funds, bank balances, etc.	52,531.85	41,161.01
From sundry other sources	88,952.15	116,712.51
Gross Revenue	$ 5,339,438.90	$ 6,039,437.60
Expenses:		
Expenses (except those dealt with below) including maintenance, repairs, taxes, and administration	$ 4,579,230.45	$ 5,322,997.59
Provisions for:		
Depreciation and amortization	629,705.18	590,189.15
Workmen's compensation and public liability	72,000.00	75,250.08
Total Expenses	$ 5,280,935.63	$ 5,988,436.82
Balance of Income before dividend	$ 58,503.27	$ 51,000.78
Deduct:		
Dividend at 5 per cent. payable to Toronto Transportation Commission	$ 50,000.00	$ 50,000.00
Balance of Income for the year, carried to accumulated surplus	$ 8,503.27	$ 1,000.78

Gray Coach Lines, Limited
Comparative Income Statement

	Gross Revenue	Expenses including Depreciation	Balance of Income before Reserves
1925	$ 132,008.03	$ 120,671.48	$ 11,336.55
1926	300,811.21	266,269.36	34,541.85
1927	570,994.23	556,749.37	14,244.86
1928	840,044.85	782,323.70	57,721.15
1929	1,278,433.67	1,214,944.57	63,489.10
1930	1,322,076.51	1,261,827.09	60,249.42
1931	1,114,437.40	1,059,370.55	55,066.85
1932	923,011.82	867,561.20	55,450.62
1933	812,961.20	761,798.73	51,162.56
1934	883,484.22	816,830.07	66,654.15
1935	920,865.03	858,199.52	62,665.51
1936	970,264.48	902,015.63	68,248.85
1937	1,184,701.58	1,087,794.28	96,907.30
1938	1,352,400.74	1,248,137.82	104,262.92
1939	1,378,586.37	1,259,894.03	118,692.34
1940	1,469,140.32	1,352,264.82	116,875.50
1941	1,988,488.58	1,750,468.43	238,020.15
1942	2,728,499.68	2,311,535.36	416,964.32
1943	2,480,828.27	2,220,258.54	260,569.73
1944	2,889,506.02	2,443,600.68	445,905.34
1945	3,494,951.24	2,823,450.44	671,500.80
1946	4,397,636.82	3,928,696.61	468,940.21
1947	4,811,894.97	4,686,992.91	124,902.06
1948	5,339,438.90	5,280,935.63	58,503.27
1949	6,039,437.60	5,988,436.82	51,000.78

General Statistics—1949

Revenue passengers carried—City System	313,764,372
Transfer passengers carried—City System	156,975,031
Revenue passengers—City System—normal week day	965,000
Transfer passengers—City System—normal week day	500,000
Passengers carried—Gray Coach Lines, Limited	20,992,093
Car, bus and trolley coach miles—City System	38,196,827
Coach miles—Gray Coach Lines, Limited	13,030,545
Car, bus and trolley coach miles operated—City System—normal week day	116,000
Coach miles operated—Gray Coach Lines, Limited—normal week day	34,500
Miles of single track owned and operated	235.20
Bus and coach route miles	1,294.93
Trolley coach route miles	15.98
Number of street cars owned	1,029
Number of buses and coaches owned	597
Number of electric trolley coaches owned	85
Number of ferry boats owned	9
Longest direct trip—City System—miles	12.00
Longest single route—City System—miles	10.04
Fares (within city limits):	
Adults	10c cash—4 tickets for 25c—Books of 32 tickets for $2.00
Children (not over 53½" in height)	3c cash—10 tickets for 25c
Scholars	7 tickets for 25c
Transfers	Free between all routes within City
Night Fares	Same as day fares
Average Fare—City System	6.158c
Annual electric power consumption in kilowatt hours	154,037,722
Annual gasoline consumption—imperial gallons	3,693,000
Annual diesel oil consumption—imperial gallons	407,000
Number of regular employees	6,089
Annual payroll	$16,595,720
Population:	
Within city limits	673,000
Greater Toronto—estimated	1,034,000
Toronto citizens residing within 2,000 feet of T.T.C. services	99.5%
Toronto citizens residing within 1,000 feet of T.T.C. services	89.1%
Automobiles registrations, City of Toronto (1949)—estimated	163,000
Persons per automobile, City of Toronto (1949)—estimated	4.06



GMC Introduces New Diesel-powered Coaches

The model PD-4102, of 41-psg. capacity, and the model PDA-3704, of 37-psg. capacity, are the designations of two new Diesel-engined highway vehicles on which GMC Truck and Coach Division is now in production. Through liberal use of fluted anodized aluminum panelling, the company's engineers and stylists have provided, in the new vehicles, a distinctive appearance which is neat and pleasing.

THE accompanying illustrations are of two Diesel-powered motor coaches which have been developed from components proved in many million miles of operation, and which were recently placed in production by General Motors Corp. Truck and Coach Division, Pontiac, Mich. The model PD-4102 coach is a 41-psgr. one, and the model PDA-3704 is a 37-psgr. one.



Interior of One of the New GMC Diesel-engined Coaches

On the 41-passenger coach the panelling extends on the sides and rear downward from the belt rail, with a sweep across the lower part of the entrance door and front end. The 37-passenger vehicle has an 11 in. bright finish aluminum appearance panel under the windows. In both vehicles the destination sign has been placed below a slanting windshield, which is of two-piece construction to reduce maintenance expense, and curved at body corners to give maximum vision.

A retractable front step which operates with the entrance door is a comfort and safety feature.

Seats, except rear cross seat, are reclining type with spring cushions, head rests and rubber backs. Seating arrangements can also be had for 37 or 45 passengers in the PD-4102 and for 41 passengers in the PDA-3704.

Panels below windows are Vinyl covered with decorative mouldings. Panels above package racks are hard plastic surfaced with natural grain finish. Upper interior center panels are of perforated Masonite.

Sliding type aluminum window sash with rounded corners are glazed with safety plate glass, and are hinged at bottom with push out lock for emergency opening. Easily operated roller type adjustable curtains are installed at each window.

Thermostatically controlled heating system of underseat heaters with air flow directed toward wall of coach, gives better control and improved passenger comfort. A large heater is provided under the dash for driver and entrance door area. The vehicles are thoroughly insulated throughout.

Individual reading lamps for each passenger are mounted in angle panel under the baggage racks.

Ventilation is provided by two roof mounted motor driven fresh air blowers, which deliver 420 cu. ft. of outside air per minute. There is also an adjustable panel type ventilator concealed in the appearance emblem under windshield. Air conditioning is available.

Baggage space of 188 cu. ft. capacity is located in compartments under the floor.

Driver's comfort and safety have been given particular attention. A heavy aluminum plate is used as body panel immediately in front of the driver. A wider, more comfortable seat, easily



The GMC Model PD-4102 Coach
Note the manner in which the fluted anodized aluminum paneling extends downward from the belt rail. This Diesel-powered coach has seating accommodation for 41 passengers.

adjustable, relieves driver fatigue. A roller type curtain is incorporated in the guard rail around the seat. The driver's compartment is free of obstruction, and all safety instruments and telltale signals are grouped to the left of the steering column. Those switches which the driver must use while the coach is in operation are grouped conveniently to the right of the steering column.

Extra features available for those operators who want them are a complete lavatory and "snack bar" facilities which can be installed at the right rear of the coach, occupying the space of two lounge seats and two rear forward facing seats.

A six-cylinder Diesel engine of 200 h.p. at 2,000 r.p.m. powers the 41-passenger coach. The 37-passenger coach is powered with a four-cylinder Diesel.

The heavy rear axle, of full floating type, with angle drive, has a standard ratio of 3.55:1 with 11.00/20 tires, giving a road speed of 67 m.p.h. at governed engine speed of 2,000 r.p.m. in the 41-passenger coach. Standard ratio for the 37-passenger coach with 10.00/20 tires is 4.11 with a 57 mile road speed, using conventional right angle drive type of axle.

Large tires, in conjunction with long springs, rear axle sway-bar and front shock absorbers, give unexcelled riding comfort and tire life.

Increased accessibility of such items as air lines, heater pipes, wiring and control rods has been accomplished.

Installation of a complete air system incorporates latest features of safety and capacity. There are three air tanks and latest type brake application chambers on the axles.

The rear end construction permits the complete power plant to be carried on a removable cradle. Access to the power plant compartment is through an easily operated compartment door.

The 41-passenger coach has two batteries located at the left side just behind the rear wheelhousing, accessible through an opening fitted with a hinged door, while batteries of the 37-passenger vehicle are located in the engine compartment. Wiring harness and cable installations provide maximum protection and accessibility of connections. Junction panels are to the left of the driver, in the second body post behind him, and in second and rear left hand underfloor baggage compartments.

Wiring in the engine compartment is flame proof. New type pre-insulated solderless terminals are used wherever applicable. Cable between bulkhead and starter is protected by metal conduit with flexible neoprene fittings at both ends.

Following are the chief dimensions, etc., of the two new coaches.



The GMC Model PDA-3704 Coach
Note the bright finish panel in aluminum below the windows. This Diesel-powered coach provides seating capacity for 37 passengers.

	PDA-3704	PD-4102
Length (over bumpers)	35 ft.	35 ft.
Length (over body)	34 ft. 7¾ in.	34 ft. 9¼ in.
Width (over rear tires)	95¾ in.	95¼ in.
Height—empty (front)	114½ in.	115-7/16 in.
Headroom (at aisle)	76-1/8 in.	76-1/8 in.
Aisle width (between seats)	15¼ in.	15¼ in.
Wheelbase	239 in.	247 in.
Track	Front 80½ in, Rear 72½ in.	Front 79½ in., Rear 70½ in
Turning radius—wheels	Right 44 ft. 8 in., Left 37 ft. 4 in.	Right and Left 37 ft. 6 in.
Turning radius—body corner	Right 47 ft. 4 in., Left 40 ft. 7 in.	Right and Left 41 ft. 0 in.
Tire size (single front, dual rear)	10.00/20 in.	11.00/20 in.

Motor Vehicle Shipments

Factory shipments of Canadian-made motor vehicles in April were 26,386 units, compared with 30,051 in March and with 26,685 in April, 1949. The April shipments included 7,492 trucks and 19 buses.

IN APRIL this year, according to advice from the Dominion Bureau of Statistics, Industry and Merchandising Division, there were factory shipments of 26,386 Canadian-made motor vehicles, compared with 30,051 in March and 26,685 in April, 1949. Shipments of commercial vehicles in April this year were 7,511, viz., 7,492 trucks, of which 6,884 were for sale in Canada and 608 for export, and 19 coaches or buses, all of which were for sale in Canada. There were shipments of 18,875 automobiles, of which 17,201 were for sale in Canada and 1,674 for export. Thus, of total shipments of 26,386 units, 24,104 were for sale in Canada and 2,282 for export. During the month, shipments of motor vehicles imported from the United States were 1,459 automobiles and 422 commercial vehicles (all trucks).

Following is the record of shipments (from factories) of made-in-Canada commercial vehicles, and of commercial vehicles imported from the United States, in April this year:—

Maximum Gross Vehicle Wt. in pounds	Made-in-Canada For Sale in Canada	Made-in-Canada Vehicles For Export	Made-in-Canada Total	Vehicles Imported from U.S.
5,000 and less	3,332	124	3,456	350
5,001 - 10,000	1,435	92	1,527	12
10,001 - 14,000	689	201	890	..
14,001 - 16,000	1,013	191	1,204	4
16,001 - 19,500	269	..	269	2
19,501 - 26,000	109	..	109	18
Over 26,000	37	..	37	36
Total Trucks	6,884	608	7,492	422
Total Coaches or Buses	19	..	19	..
Total Commercial Vehicles	6,903	608	7,511	422

Shipments in First Four Months

In the first four months of 1950, factory shipments of made-in-Canada commercial vehicles were 30,918 vehicles, of which 28,359 were for sale in Canada and 2,559 for export. Included were 30,814 trucks, of which 28,255 were for sale in Canada and 2,559 for export, and 104 coaches or buses, all of which were for sale in Canada. Also shipped were 84,183 automobiles, of which 78,276 were for sale in Canada and 5,907 for export. Thus, in the four-month period, factory shipments of made-in-Canada motor vehicles of all kinds were 115,101 units, of which 106,635 were for sale in Canada and 8,466 for export. In addition, there were shipments of 1,570 commercial vehicles and 4,789 automobiles imported from the United States.

Following is the record of factory shipments of made-in-Canada commercial vehicles, and of commercial vehicles imported from the United States, in the first four months of this year:—

Maximum Gross Vehicle Wt. in pounds	Made-in-Canada For Sale in Canada	Made-in-Canada Vehicles For Export	Made-in-Canada Total	Vehicles Imported from U.S.
5,000 and less	14,289	536	14,825	1,138
5,001 - 10,000	6,064	523	6,587	277
10,001 - 14,000	2,300	900	3,200	..
14,001 - 16,000	4,048	600	4,648	13
16,001 - 19,500	1,018	..	1,018	6
19,501 - 26,000	352	..	352	53
Over 26,000	184	..	184	83
Total Trucks	28,255	2,559	30,814	1,570
Total Coaches or Buses	104	..	104	..
Total Commercial Vehicles	28,359	2,559	30,918	1,570

Shipments of motor vehicles of all kinds in the first four months of

1950 were 115,101, compared with 83,311 in the first four months of 1949 and with 84,452 in the first four months of 1948. Shipments in all of 1949 were 290,634 units, and in all of 1948, 264,178 units.

The companies, from the reports of which the foregoing figures were compiled, include the following Canadian producers:—Canadian Car and Foundry Co., Ltd., Fort William, Ont.; Chrysler Corporation of Canada, Ltd., Windsor, Ont.; Western Flyer Coach, Ltd., Winnipeg; Ford Motor Co. of Canada, Ltd., Windsor; General Motors of Canada, Ltd., Oshawa, Ont.; Hayes Mfg. Co., Ltd., Vancouver; International Harvester Co. of Canada, Ltd., Chatham, Ont.; Les Ateliers Prevost, Inc., Ste. Claire, Que.; Motor Coach Industries, Ltd., Winnipeg; Reo Motor Co. of Canada, Ltd., Leaside, Ont.; Studebaker Corp. of Canada, Ltd., Hamilton; White Company, Ltd., Montreal; Sicard, Inc., Montreal.

Other companies which reported were Diamond-T Trucks, Ltd., Toronto; Federal Motor Truck Co., Ltd., Detroit; Four Wheel Drive Auto Co., Ltd., Kitchener, Ont.; Hudson Motors, Ltd., Tilbury, Ont.; Kaiser-Frazer Corp., Ltd., Willow Run, Mich.; Leyland Motors, Ltd., Toronto; Mack Trucks of Canada, Ltd., Toronto; Nash Motors of Canada, Ltd., Toronto; Packard Motor Car Co. of Canada, Ltd., Windsor; Willys-Overland of Canada, Ltd., Toronto; Weymouth-Bradley, Ltd., Toronto.

Welles Gets Marmon-Herrington Canadian Rights

Manufacturing, sales and service rights for Canada, for the Marmon-Herrington line of motor coaches, originally built by Ford Motor Co., have been awarded the Welles Corporation, Ltd., Windsor, Ont.

Official advice in regard to the acquisition by the Welles Corp., Ltd., of Windsor, of the Canadian manufacturing, sales and service rights for the Marmon-Herrington line of motor coaches, formerly built by the Ford Motor Co., notes that the line consists of two models, the 27-29 psgr. and the 31-35 psgr. coaches, exact capacity depending upon seating arrangement.

These coaches are powered by a heavy duty, six cylinder economy engine, especially designed for this type of service. The new coaches, to be known in Canada as the "W-M-H" Welles-Marmon-Herrington, are the outgrowth of a predecessor Ford powered line, of which many thousands are operating in Canada and the United States.

Production plans are now in progress, and it is expected that deliveries will start in September.

As part of its overall policy, Welles Corporation will institute a vigorous programme to ensure proper servicing of these coaches in the field, and wishes to assure all owners and operators of earlier model Ford coaches that adequate facilities for the maintenance and servicing of this equipment are available.

Halsey V. Welles, President of Welles Corp., Ltd., states that plans for enlargement of the plant at Windsor to accommodate this added activity are now under way.

Sales of the new "W-M-H" coarhes will be handled through the various Welles sales branches and representatives located in Toronto, Calgary, Vancouver and Montreal.

Over the years the Welles Corp. has gained an enviable reputation for high quality in the manufacture of the well known Welles-Wayne bodies for school bus and adult service.

An accompanying illustration shows a "Skyliner" sight-seeing coach, with body designed by Welles Corp., Ltd., and built at the Windsor plant. This body is mounted on a heavy duty Dodge chassis, suitably modified for bus operation. The vehicle, with head rest seats, and roof incorporating long life Plexiglas, is of 25-psgr. capacity, and there is a large luggage compartment at the rear. This coach, acquired by Athabasca Motor Tours, Ltd., is now in operation in Jasper National Park.



A "Skyliner" 25-Psgr. Motor Coach in Operation in Jasper National Park
This coach, with Plexiglas roof, making it admirably suited for sight-seeing work, is built with Welles body on a heavy duty Dodge chassis.

Notable Shipment of Duraliners

The accompanying illustration shows 15 28-psgr. Duraliner motor coaches delivered by the builder, Fitzjohn Coach Co., Muskegon, Mich., to Sindicato de Permisionarios de Autobuses de Oriente Linea Mexico-Vera Cruz of Mexico City. This firm operates a total of 20 coaches acquired for service between Mexico and Vera Cruz. The coaches were driven from Muskegon to Mexico City, and created quite a sensation all along the route. These coaches have special engines, larger than those ordinarily installed, to compensate for loss of power arising from the high altitude of the route over which operation is conducted. Also, these coaches are equipped with two-speed rear axles.

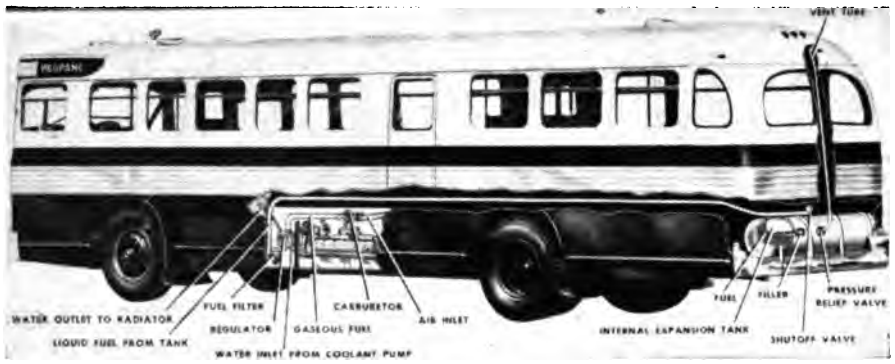


The 15 28-psgr. Fitzjohn Duraliner Coaches which Were Driven from Muskegon to Mexico City

Propane Fuel for Twin Coach Buses

Seven standard bus models of 34 to 58-psgr. capacity constitute the Twin Coach line of propane-powered vehicles. Propane fuel has been extensively used in truck service over many years.

AN article in our May issue, pg. 275, called attention to the first complete line of standard motor vehicles in America for operation with 125 octane propane fuel, reputedly the world's lowest-priced motor fuel. The motor vehicles referred to are seven standard bus models of from 34 to 58-psgr. capacity, offered by Twin Coach Co., all of these vehicles being powered by Fageol Twin Coach engines with ten to one compression ratio. An illustration of a bus fitted for the use of propane fuel appears herewith, together with a view showing the application of the propane fuel system to a Twin Coach bus. Twin Coach experiments with propane as a fuel date back to 1935, and F. R. Fageol, Chairman of the Twin Coach Co. Board, is quoted as saying that the company is convinced that propane, because of its efficient operating characteristics, plentiful supply, low cost and maximum safety, is the ideal transit fuel for today. It was mentioned in our May issue article that the supply of propane, otherwise known as liquid petroleum gas, far exceeds the forseeable demand.



The Application of Propane Fuel System to Twin Coach Bus

Recent advice from Twin Coach Co. is that propane fuel offers an increase of 50% in time between engine overhaul, in addition to fuel savings averaging up to two cents a mile.

The bus shown in the illustration is now touring transit properties and is being used to give practical demonstrations of operation with propane fuel. Mr. Fageol is quoted as saying that propane, once a waste product of the petroleum industry, is now revealed as the perfect bus fuel, one of its principal advantages being that it is odorless and completely eliminates exhaust fumes and smoke, which are now the main public complaint against buses. He has been urging health authorities and civic groups to actively campaign for the immediate conversion of all buses to propane. He is quoted as having stated:—"Conversion will not only pay substantial dividends in improved public comfort and health, but it affords transit companies an opportunity to make immediate important savings in fuel costs.

As noted in our May issue article, Mr. Fageol is reported to have stated that delivered fuel costs (before tax) of propane average from 25 to 50% below those of gasoline, and from 10 to 40% below those of Diesel fuel, in mid-continent sections of the United States, with differentials in certain locations somewhat smaller because of transportation costs. He stated:—"Leading refiners have indicated willingness to supply propane, once a waste product of the refining industry, at approximately 2½ cents per gallon at the refinery on long term contracts."

Additional Bus Operation Details

In the annual review of motor bus and coach operations throughout Canada in our June issue, beginning on pg. 329, details were given as concerns the vehicles, traffic, vehicle mileage, fares, etc., of a great many individual bus and coach operators, the information having been based on replies furnished to a questionaire sent out by us. Information in regard to the bus and coach services of a few additional operators is given in the following.

British Columbia Electric Ry. Co., New Westminster (including operation in Burnaby Municipality) began bus operation on December 14, 1936 and now provides service on a one way route mileage of 56.12. It uses a fleet of 46 vehicles, comprising:

No.	Capacity	Type	Make
10	29	C-30	Kenworth
27	37	38-S	Twin Coach
9	27	Transit	Ford

Operating statistics for 1949 are: Bus miles operated, 1,944,865; revenue passengers carried, 9,151,565 or 4.72 per bus mile; revenue per bus mile, 37.76c; and expenses per bus mile, before depreciation, 34.14c.

The fare structure for New Westminster City is: Adult, cash 8c, tickets 4 for 30c; child, cash 5c, tickets 10 for 25c.

B.C.E.R. Co., North Vancouver began bus operation on October 1, 1943 and provides service on a one way route mileage of 31.28. It uses a fleet of 30 vehicles, comprising:

No.	Capacity	Type	Make
5	34	34-S	Twin Coach
10	37	38-S	"
10	40	41-S	"
5	44	44-S & D	"

Operating statistics for 1949 are: Bus mileage, 1,359,276 — revenue 1,-



A Twin Coach 44-Psgr. Bus, Powered by Fageol Twin Coach Engine with 10:1 Compression Ratio, Using Propane

339,092 and non-revenue 20,184; revenue passengers carried, 5,362, 234 or 4 per bus mile; revenue per bus mile, 37.57c; and expenses per bus mile, before depreciation, 38.41c.

The fare structure is: Local—Adult, cash 8c, tickets 4 for 30c; child, cash 5c, tickets 10 for 25c. Intercity bus tickets services to intercity bus, tickets 5 for 90c; transfer to and from local services and Vancouver city lines (including inter-city bus), tickets 5 for $1.10. Settler tickets—transfer to and from Vancouver city lines via North Vancouver ferry (city-owned), tickets 9 for $1.00.

Carier et Frere, Ltee., Shawinigan Falls, Que., began bus operation in September, 1922, and now services a one way route of 420 miles—city 9 and suburban and interurban 411. It uses a fleet of 66 vehicles comprising:—

No.	Capacity	Type	Make
10	36	Interurban	Fitzjohn
4	28	Urban	Fitzjohn
8	12	Autos-neige	Bombardier
5	27	Interurban	Mack
2	29	School Bus	Reo
2	7	"	Willys
7	29	Interurban	Prevost
21	27	Urban	Ford
7	28	Interurban	Fitzjohn

Since the beginning of 1949 and to date in 1950 five 29-psgr. interurban type Prevosts and one 33-psgr. urban type Fitzjohns have been acquired.

Ottawa Transportation Commission, which began bus operation in 1925 (then The Ottawa Electric Railway Company) provides service on nine routes co-ordinated with electric car service, at same fare and with transfers given and accepted. It uses a fleet of 97 vehicles, comprising:—

Ottawa

No.	Capacity	Type	Make
8	23	Transit	Mack
10	27	"	Ford
10	29	"	A.E.C.
10	36	"	Mack
44	36	"	Car-Brill
1	37	Inter-City	Car-Brill
10	44	Transit	Twin-Coach
4	44	"	White

The following buses were purchased and delivered from the beginning of 1949 to May, 1950: nine 36-psgr. transit type C.C.-Brills; ten 44-psgr. transit type Twin Coaches; four 44-psgr. transit type Whites; and six 36-psgr. transit type C.C.-Brills.

Operating statistics for 1949 are: bus miles operated, 1,823,895—city 1,770,161, chartered 33,224, sightseeing 11,366, mystery tours 6,788 and Rideau Lakes 2,356; revenue passengers carried, 10,953,185; passengers per bus mile, 6.01; revenue per bus mile, 39.33c; and expenses per bus mile, before and after depreciation and fixed charges, 43.45c and 51.31c, respectively.

St. Maurice Transport Company, Que., began bus operation in 1938 and provides a one-way route service of 80 miles in the cities of Trois-Rivieres and Cap de la Madeleine, P.Q.. It uses a fleet of 42 buses, comprising:—

No.	Capacity	Type	Make
6	23	Mack	1940
3	23	"	1942
1	23	"	1944
3	27	"	1943
2	27	Ford	1945
4	28	"	1945
14	28	"	1947
1	32	"	1947
6	36	Car-Brill	1948
1	36	Prevost	1950
1	45	Prevost	1950

Since the beginning of 1949 and to date in 1950 one 36-psgr. Prevost and one 45-psgr. Prevost have been purchased and delivered.

Operating statistics for 1949 are: Bus miles operated, 1,455,472; revenue passengers carried, 10,016,176 or 6.8 per bus mile; revenue per bus mile 37.35c; and expenses per bus mile, before and after depreciation and fixed charges, 32.58c and 36.16c, respectively.

The management reports a decrease of 20% in the net operating profit of 1950 to date.

Leather Cartage Ltd., Trucks

An article in our June issue, pg. 340, called attention to the fact that Leather Cartage, Ltd., Hamilton, Ont., operates International motor trucks or tractors, including 35 model K-7 tractor semi-trailers and 15 panel models, with the latter engaged in collecting mail in Hamilton. The accompanying illustration presents a view of many of the units in this notable truck fleet.



Some of the 65 International Units Operated by Leather Cartage, Ltd., of Hamilton, Ont.

Kingsway Transports, Ltd.

Recent announcement by Kingsway Transports, Ltd., is that John W. McGiffin, Montreal, who has been associated with the company since 1942, recently as Vice President and Controller, has been appointed General Manager.



John W. McGiffin,
General Manager, Kingsway Transports, Ltd.

Born in Saint John, N.B., where he was educated, he later attended Lower Canada College, Montreal, and Bishop's University, graduating in Arts. He later devoted two years to law study at McGill.

On leaving McGill in 1934, he was initiated into the Canadian transportation field when he joined Canadian National Steamships, serving in the purser's department on West Indies routes. In 1935 he became associated with Canada Steamship Lines, where he entered the operating department. He was subsequently transferred to terminal operations, and in 1938 organized the accident prevention and safety department. In 1940 he was moved to the president's and managing director's office, where he became chief clerk.

In June 1942, Mr. McGiffin joined his present company as assistant manager. Later, in 1946, he was promoted to vice president and controller. During his association with Kingsway, he has seen that company develop into one of the largest and most efficient highway transportation organizations in the Dominion. In the process he has acquired a wide executive knowledge of all phases of motor transport operation, assuming direction of an organization whose major road operations are between Montreal and Toronto, and whose activities are closely identified with the ports of Montreal, Toronto and Hamilton.

First Canadian-Built Fitzjohns

Mention was made in our June issue, pg. 351, of the delivery by Fitzjohn of Canada, Ltd., from its Brantford, Ont., plant, of three 33-psgr., model 310 Cityliner coaches to Hollinger Bus Lines, Toronto, these coaches having been delivered prior to May 14. An accompanying illustration shows the first of these coaches delivered.

Fitzjohn Coach of Canada, Ltd., is the Canadian subsidiary of Fitzjohn Coach Co., Muskegon, Mich., and its Brantford plant is at the airport, three miles from the city, the building, including offices, furnishing 42,000 sq. ft. of floor space. The main building is 160 x 270 ft., and is entirely clear except for one line of posts along the center line, providing ideal space for motor bus and coach manufacture. Production began with about 100 employees, and the management's expectation is that about 10 motor coaches each month will be produced.

The Fitzjohn Cityliner coach is available in 33-psgr. capacity with rear exit door, or in 35-psgr. capacity without rear exit door. It is 28 ft. 3½ in. long over all, with width of 93 in. over all, and head room of 74½ in. and aisle width of 19 in. are provided. This coach is powered by a 131 h.p. Hercules six-cylinder L head engine, of 339 cu. in. piston displacement, with cylinders of 4 in. bore by 4½ in. stroke.

Hydramatic Drive Buses In Cornwall

In May, Cornwall Street Railway, Light and Power Co., Ltd., Cornwall, Ont., received delivery of two GMC 27-psgr. hydramatic drive buses. C. I. Bacon, Manager, states in regard to these vehicles: "It is significant to note that these are the first two hydramatic drive 27-passenger buses in operation in Canada. We required two light buses for special emergency and feeder service, and the first week's operation proved the company's belief that there is decided economy of operation for the small type of vehicle. The licensed weight of the vehicle is 9,100 lb. Gasoline consumption averaged 7.2 miles per gallon during the first 1000 miles of operation. The feature of the hydramatic drive is well liked by the operators; it provides smooth acceleration with consequent comfort to the passengers, and the absence of a clutch pedal and general operation is very similar to that of the trolley coaches which the Company operates."



Interior of the First Fitzjohn Canadian - built Cityliner

Cornwall Street Railway, Light and Power Co. is now operating 15 44-psgr. trolley coaches, three 36-psgr. gasoline buses and the two 27-psgr. gasoline buses with hydramatic drive which were received in May.

Ford Production

Recent official advice is that May was the greatest production month in the history of Ford Motor Co. of Canada, Ltd. Output of passenger cars and trucks reached 13,494 units, topping the previous high record of 12,967 established in August, 1928. The company's production for the first five months of this year was 57,812 units. In May, the company produced 8,087 cars and 3,811 trucks for the domestic market, and 1,044 cars and 552 trucks for export. In the five months to May 31, production was 36,624 cars and 13,729 trucks for the domestic market, and a total of 7,459 cars and trucks for export.

Vancouver Transportation Bureau

It was recorded in our May issue, pg. 276, that the trucking industry in British Columbia has three representatives on the executive committee of the Vancouver Board of Trade Transportation and Customs Bureau, viz., G. L. Buckman, Secretary-Manager, Automotive Transport Association of British Columbia; J. V. Hughes, the committee's Vice President, and Ivor Neil.

Mr. Hughes is Manager of Neal Evans Transportation Co., Ltd., and a past president of the Automotive Transport Association of British Columbia, while Mr. Neil, Transportation Manager, British Columbia Electric Ry. Co., was formerly General Manager of B.C. Motor Transportation, Ltd., and is a member of the Automotive Transport Association of British Columbia, and one of its founders.

Six-Day Week at Ford Plant

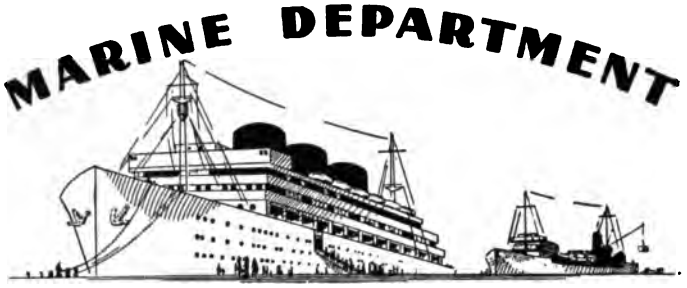
The Ford Motor Co. of Canada, Ltd., plant at Windsor, Ont., went on a full six-day week at the beginning of June. Formerly, the plant had been working a five-day week. Announcement by Robert S. Bridge, Vice President, Manufacturing, was that the longer work week was necessitated by the heavy demand for the company's cars and trucks in all sections of Canada.

New Coaches, Provincial Transport Co.

In the period May 15 - June 15, Canadian Car and Foundry Co., Ltd., Automotive Division, delivered 25 35-psgr. motor coaches, converted for suburban operation and designated the model IUC-35A, to Provincial Transport Co., Montreal.



The First Fitzjohn Cityliner Coach Built in Canada
This coach, produced at the Fitzjohn plant in Brantford, was consigned to Hollinger Bus Lines, Toronto. At the left appears B. J. Hickey, Fitzjohn Canadian Sales Representative, and at the right J. B. Hollinger, Vice-President, Hollinger Bus Lines, Ltd.



Canadian Pacific Steamships

Ss. Empress of Scotland in Service

Details were given in our May issue, beginning on pg. 281, of the plans for the re-entry of the refitted S.S. Empress of Scotland into passenger service, and it was noted that the ship had been reconverted and refitted by Fairfield Shipbuilding and Engineering Co., Ltd., Govan, Glasgow, Scotland, following release by the Admiralty, which she had served over a long period. Also, considerable information as to the ship herself was presented, as concerns structural details, propelling machinery and passenger accomodation. The ship began her trans-Atlantic service as scheduled, leaving Greenock May 10 and arriving at Quebec May 16. She is due to make 10 calls at Quebec during this year's St. Lawrence navigation season. She is operating on a round trip schedule of three weeks, sailing between Liverpool, Greenock and Quebec, leaving Quebec every third Friday and Liverpool every third Tuesday, and her schedule is so integrated with those of the S.S. Empress of Canada and S.S. Empress of France, which operate between Montreal and Liverpool, as to provide a weekly sailing between Canada and the United Kingdom.

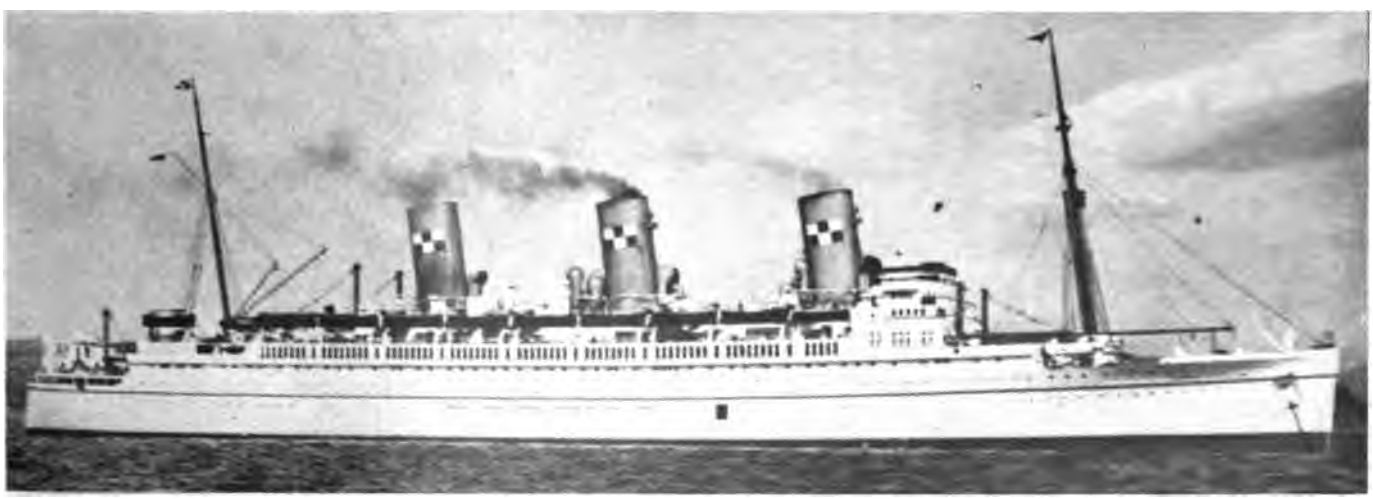
The return of the S.S. Empress of Scotland re-opened the regular Canada-Scotland route after an 11-year lapse because of the second world war. When she arrived at Quebec on May 16, it marked the third time that she had entered the ancient St. Lawrence River port. She arrived in Quebec on her maiden voyage in 1930, as the S.S. Empress of Japan, and after return to Southampton was transferred to the Pacific Ocean, and she still holds the record as the largest and fastest passenger ship to operate on that ocean. Her second arrival at Quebec was as a troop transport, in September, 1945. On that occasion she carried over 3,100 returned Canadian Army men, 560 R.C.A.F. and R.A.A.F. personnel, about 300 Royal Navy men and 40 C.W.A.C.'s. On that voyage, she retained her grey war paint, but had been divested of her 23 guns of varying calibre which she had carried to defend herself during the war. On her return voyage to the United Kingdom she carried the Governor-General, the Earl of Athlone, and Princess Alice, on leave.

The S.S. Empress of Scotland had notable war service, in which she spent eight and one-half years, steaming 712,689 miles. She proceeded around the world three times, twice westbound and once eastbound, and sailed five times to Australia and New Zealand, 12 times to Canada, eight times to India, five times to South Africa and Singapore and twice to Japan. During the invasion of North Africa she made seven trips, carrying 30,000 American soldiers from New York and Newport News to Casablanca. She carried 292,000 persons, 92% of them troops, during her war service period, and although she suffered heavy enemy air attacks off the west coast of Ireland, she spent only 125 days in the repair yard during her whole period of war service. On her final trip in Admiralty service she carried 1,700 British troops and civilians from Palestine to Liverpool.

Commanding the S.S. Empress of Scotland is Capt. Edgar Arthur Shergold, a veteran of service afloat through two world wars. His portrait appeared in our May issue, pg. 285.

Other senior officers aboard the white-hulled, three-funneled speedster are Staff Commander D. Parsons, Chief Officer F.W.S. Roberts, First Officer N. W. Duck, D.S.C., Chief Engineer J. N. Thomson and Purser A. W. M. Stark.

Capt. Shergold's first appointment with C.P.S. was as third officer on the Missanabie, and he was extra second officer of that ship when she was torpedoed and sunk in 1918. He served subsequently in the Montezuma, Empress of France, Montnairn, Montclare, and Duchess of Atholl.



The 28,000-Ton Canadian Pacific Steamships, Ltd., Ss. Empress of Scotland
The photograph from which this illustration was prepared was taken from the deck of the tender Caledonia, prior to the Ss Empress of Scotland weighing anchor at Greenock, Scotland, May 10, at the beginning of the ship's maiden post-war passenger service voyage from the United Kingdom to Canada.

In April, 1934, he joined the Duchess of Richmond as second officer and remained with that ship until May, 1940. He was transferred to the Duchess of York in 1941, and December of that year received his first command as master of the Empire Yukon. From then until his appointment as captain of the Empress of Canada when she resumed peacetime service in 1947, he held command of the Duchess of Bedford, Duchess of Richmond, and the Empress of Australia.

Chief Officer Parsons was twice mentioned in dispatches during World War II, and when discharged with the rank of commander he was in charge of all destroyer forces based at Rosyth, shunting off point for "E-Boat Alley," where he encountered many of the German torpedo boats.

Purser Stark is another veteran of two world wars afloat, joining the company in 1911 on the first Empress of Britain. He was with the Empress of Australia during the evacuation of Singapore during the last war, and also served with Ministry of War Transport ships in the East.

C.P.R. B.C. Coast Service

In the Canadian Pacific Ry. British Columbia Coast Steamship Service, according to official advice of June 12, the ss. Princess Elaine resumed service on the Vancouver-Nanaimo route on May 24, when she relieved the ss. Princess Patricia.

The ss. Princess Kathleen was relieved on the Triangle Route on June 1, and on June 3 commenced her summer schedule on the Vancouver-Alaska route.

In addition to operating on the West coast of Vancouver Island, the ss. Princess Maquinna acted as an extra night ship from Victoria to Vancouver on May 22, and from Vancouver to Victoria on May 23.

On May 28 the ss. Princess Marguerite was relieved by the ss. Princess Patricia on the Triangle Route, and laid over in Vancouver until June 1, when she relieved the ss. Princess Kathleen on the Triangle Route.

On May 29 the ss. Princess Mary was withdrawn from service at Victoria for boiler blow-down, and resumed service on the Gulf Islands and Westview-Comox routes on June 6.

The ss. Princess Norah resumed service by relieving the ss. Princess Mary on the Gulf Islands and Westview-Comox routes on May 30, remaining on those routes until June 6, and at the date of our advice was operating on the Vancouver-Alaska route, on which she commenced service on June 7.

The ss. Princess Patricia, after having been relieved on the Nanaimo route, handled a public excursion from Vancouver to Victoria on May 24, and following return to Vancouver, laid over there until May 28, when she relieved the ss. Princess Marguerite on the Triangle Route.

Canals Traffic in April

With the navigation season opening considerably later this year than in 1949, through the canals at Welland and Sault Ste. Marie, freight traffic through the Canadian canals in April this year was down by large margin from the April, 1949, traffic.

While very early opening of navigation on the Great Lakes system took place in the spring of 1949, such was not the case this year, and the result was that traffic through the canals in April this year was much below that in that month last year. Total freight through the canals decreased from 2,211,385 tons in the 1949 month to 1,128,701 tons, while total ship passages were down from 1,753 to 767. The canals at Sault Ste. Marie did not open for traffic until April 23 this year, compared with April 11 last year, while the Welland Ship Canal did not open until March 30 this year, compared with March 15 last year. On the other hand, the St. Lawrence canals were ready for operation by April 10 this year, as against April 14 last year.

Sault Ste. Marie Canals.—Eastbound freight traffic through the Canadian lock at Sault Ste. Marie in April this year was only 2,757 tons, compared with 190,211 tons in the month last year, and westbound freight traffic was 17,811 tons, compared with 66,665 tons. Through the combined Canadian and U.S. locks, eastbound traffic in April this year was only 25,695 tons, compared with 10,746,569 tons in the 1949 month. Westbound freight traffic through the combined locks was only 118,687 tons, compared with 1,283,453 tons in April, 1949. No iron ore passed through the Soo canals eastbound this year, whereas in April last year eastbound tonnage of iron ore was 9,015,561.

Welland Ship Canal.—There were 423 ship passages through the Welland Ship canal in April this year, compared with 712 in the 1949 month, and total freight declined from 1,425,684 tons in the 1949 month to 817,498 tons. Following is the record of freight through the Welland Ship Canal, in tons, in April, this year and last:—

	Month of April	
	1950	1949
Barley		9,385
Corn	8,978	34,258
Oats		4,315
Rye		11,068
Wheat	24,321	381,616
Flour	1,194	
Gasoline	106,533	125,009
Petroleum and other oils	109,059	255,479
Sugar	150	6,178
Autos and parts	480	343
Paper	19,673	27,491
Wood pulp	2,271	
Soft coal	469,921	433,786
Coke	5,404	
Iron ore		25,700
Sand	22,000	20,700
All other freight	47,514	90,356
Total freight	817,498	1,425,684

St. Lawrence Canals.—There were only 263 ship passages through the St. Lawrence canals in April this year, a large decrease from the 546 in April, 1949. Total freight through these canals was reduced from 511,244 tons in the 1949 month to 285,457 tons in the month this year. Following is the record of the freight traffic, in tons, through the St. Lawrence canals, in April, this year and last:—

	Month of April	
	1950	1949
Barley		3,112
Corn	11,077	3,318
Oats		1,959
Rye		8,084
Wheat	61,530	223,259
Flour	532	
Gasoline	22,045	52,200
Petroleum and other oils	33,465	32,369
Sugar	475	5,799
Autos and parts	270	238
Paper	5,628	6,076
Wood pulp	2,271	1,900
Hard coal	2,876	
Soft coal	99,352	92,086
Sand	2,300	15,100
All other freight	43,636	65,764
Total freight	285,457	511,244

Other Canals and Total.—Figures recording the traffic through other canals in the Canadian system, and through Canadian canals as a whole, for April this year and last, appear in the accompanying two-column table.

The figures in this review were furnished by the Dominion Bureau of Statistics, Transportation Division.

Traffic through Canals other than Sault, Welland Ship and St. Lawrence, and through All Canadian Canals Combined, April, 1950 and 1949

		Ottawa River Canal		Rideau Canal		Richelieu River Canal	
		1950	1949	1950	1949	1950	1949
Ships	No.	20	76			6	5
Registered tonnage	Tons	5,652	17,539			798	981
Passengers	No.						
Total freight	Tons	4,100	13,980			618	438
Pleasure craft		12	47				

		Trent Canal		Murray Canal		St. Peter's Canal	
		1950	1949	1950	1949	1950	1949
Ships	No.			6	9	26	107
Registered tonnage	Tons			3,426	3,659	898	6,373
Passengers	No.						
Total freight	Tons				250	460	2,913
Pleasure craft							26

		St. Andrew's Canal		All Canadian Canals	
		1950	1949	1950	1949
Ships	No.			767	1,753
Registered tonnage	Tons			1,137,324	2,218,063
Passengers	No.			1	36
Total freight	Tons			1,128,701	2,211,385
Pleasure craft				12	73

Merchant Ship Construction at Postwar Peak

A statement issued by Lloyd's Register of Shipping and covering all maritime countries except Russia and Germany, for which returns are not available, shows that, in the quarter ended March 31 last, a new postwar high record in tonnage of merchant ships under construction was established.

A RETURN furnished by N. Dobson, Principal Surveyor for Canada, Lloyd's Register of Shipping, Montreal, shows that 4,684,674 gross tons of merchant ships were under construction throughout the world in the quarter ended March 31 last, compared with 4,394,768 tons at December 31, 1949, and 4,607,739 tons at September 30, 1949. Thus, on March 31, merchant ships being built aggregated almost 290,000 tons more than at December 31 last. The return furnishes an excellent summary of world shipbuilding, as the situation existed in the first quarter of this year, stating as in the following.

The gain in tonnage being built was effected despite declines in construction reported for Great Britain and Ireland and the United States. Japan, however, made a gain of about 270,000 gross tons, and there were increases for practically all the European maritime countries. The decrease for Great Britain and Ireland amounted to about 99,000 tons, and for the United States to 71,000 tons.

The comparison of merchant shipping under construction throughout the world during the last two quarters is shown by Lloyd's Register in the following gross tonnage table.

	Quarter Ended March 31, 1950	Dec. 31, 1949
Great Britain and Ireland	1,895,219	1,994,191
United States	441,640	512,787
Other Countries	2,347,815	1,887,790
World Total	4,684,674	4,394,768

It is to be noted that the position was reached at March 31 where the smaller maritime countries, taken as a group, were building more tonnage than Great Britain and Ireland and the United States combined. As a result, the proportion of the world's ship construction done by Great Britain and Ireland, which in the December quarter was 45.4% fell to 40.4%, and the share of the United States declined from 11.7% to 9.5%. The share of the other maritime countries, taken as a group, rose from 42.9% to 50.1%.

Of the 4,684,674 gross tons of merchant shipping building throughout the world in the first quarter of this year, 2,905,017 tons were intended for classification with Lloyd's Register (including the British Corporation Class.) Of the Lloyd's total, 1,766,807 tons were building in Great Britain and Ireland, and 1,138,210 tons in other countries. Thus, 93.2% of all merchant shipbuilding in Great Britain and Ireland, and 62% of the entire world output, were being produced under Lloyd's supervision.

For the March quarter, new work on which construction was begun, throughout the world, was about 420,000 gross tons more than in the December quarter. For Great Britain and Ireland, however, the gain was only 20,000 tons, compared with 400,000 for the other maritime countries. World launchings in the March quarter were about 168,000 gross tons less



Wm. Notman and Sons Photo
N. Dobson, M.I.N.A.,
Principal Surveyor for Canada, Lloyd's Register of Shipping.

than in the December quarter. The March quarter launchings for all countries were 474,000 tons less than the total of new work begun in the same period. For Great Britain and Ireland, launchings were less than new work by about 64,000 tons; but for the other countries, the excess of new work was 410,000 tons.

In the following gross tonnage tables, Lloyd's Register shows the comparison of new work and launchings during the last two quarters.

	Quarter Ended March 31, 1950	Dec. 31, 1949
New Work		
Great Britain and Ireland	268,392	248,696
Other Countries	825,111	424,853
World Total	1,093,503	673,549
Launchings		
Great Britain and Ireland	204,440	301,941
Other Countries	414,838	485,218
World Total	619,278	787,159

During the March quarter, ships brought to completion aggregated 805,556 tons, or about 288,000 tons less than the replacements through new work. For Great Britain and Ireland, work was completed on 360,969 tons of merchant vessels, and for the other countries, taken as a group, 444,587 tons.

Some gains are reported in the production of motor tankers of 1,000 gross tons each and upwards. For the world, 1,358,117 tons were building, at March 31, compared with 1,302,802 at the end of December. Great Britain and Ireland's March 31 total of 743,903 tons showed a decline of 33,000 tons. Sweden had 212,250 tons under way, a gain of 24,000 tons, while Holland's 95,520 tons represented a drop of 1,220 tons. France, with 103,875 tons, showed a gain of about 21,000 tons; and Denmark had only 40,020 tons, compared with 50,820 at the end of December. Japan, however, practically doubled her production, going from 37,450 tons to 73,450. Spain and Portugal report no change in their figures of 32,924 tons and 8,200 respectively. Italy, however, increased her production from 2,900 tons to 21,600. Norway's total jumped from 1,500 tons to 12,000. Canada still had 2,100 tons under way, but no tonnage of this class was building in the United States. Belgium's total dropped from 22,000 tons to 11,171. Finland reports 1,104 tons building at March 31.

Slight change is reported in the world construction of steam and tankers (of 1,000 gross tons and upwards each), the December total of 1,924,333 having increased to 1,929,180. Great Britain and Ireland show a decline from 951,966 to 930,680; and for the United States, a decrease is reported from 425,488 tons to 292,286. Japan, however, reports an advance from 47,450 tons to 119,450. Belgium's total of 33,171 tons shows a slight gain from the 33,000 of the December quarter. Canada reports work started on 26,100 tons.

The 2,919,072 tons of motor vessels of all types building throughout the world at March 31 showed a gain of nearly 130,000 tons over the December quarter total. Great Britain and Ireland then had 1,173,674 tons under way, compared with 1,239,368 at the end of December. France was building 346,046 tons, a gain of almost 34,000 tons, and Sweden's total had risen from 292,125 to 303,985. Holland shows 279,572 tons building, a gain of not quite 13,000 tons. Italy's total went from 191,310 to 216,577, while Denmark's dropped from 125,129 to 121,549. Japan, however, increased its total from 96,076 tons to 206,261. Spain reports a small gain, from 78,093 to 82,740, and Norway from 56,975 to 64,736. For Belgium, there was a decline of from 54,860 to 47,471. For the British Commonwealth countries, the December total of 30,439 rose to 32,579. This includes Canada (16,850 tons in the December quarter, and 13,840 in March). For the United States, the total rose from 5,799 to 6,954 tons.

Comparing the construction of motorships and steamships, Lloyd's Register points out that 1,154,000 tons

more of motorships than of steamships were under way in the March quarter. With Great Britain and Ireland, the motorship lead was about 452,000 tons, and for all other countries, taken together, about 701,000 tons. The March 31 share of motorships in world production was 62.3%, compared with 63.5% in the December quarter. In the following gross tonnage table, Lloyd's Register shows the comparative construction of motorships and steamships.

	Great Britain and Ireland	Other Countries
Motorships	1,173,674	1,745,398
Steamers	721,545	1,044,057
	1,895,219	2,789,455

Great Britain and Ireland continued to lead at March 31 in the production of tonnage to be registered in other countries than that in which it is built, having 717,896 tons under way for export. In this category, the United States was constructing 95,822 tons; Sweden, 246,392; Holland, 182,-195; and Italy 88,137. Other countries building for export were Japan, 89,-200 tons; Denmark, 57,899; Belgium 44,471, and in Canada, 9,840.

Those countries for which the foregoing shipping was being built include Norway, 610,923; Panama, 141,-810; Argentine, 236,569. Also, the British Commonwealth countries, 81,502; Denmark 60,478; France 68,537; and Holland, 47,754.

With all the principal maritime countries except Great Britain and Ireland, the United States, and Denmark showing increases in tonnage under way, there were several changes in the relative ranking of the various countries during the quarter ended March 31. Great Britain and Ireland still led; but the United States, which stood second in the preceding quarter, was third, having been edged out by France. Japan had jumped from eighth place to fourth, dropping Holland to fifth and Sweden to sixth, while Italy moved from sixth to seventh, and Denmark from seventh to eighth. The British Commonwealth countries moved from eleventh to ninth, Spain from ninth to tenth, and Norway from tenth to eleventh, while Belgium remained in twelfth place.

Lloyd's Register shows the comparisons in tonnage on hand in the maritime countries of the world during the last two quarters, in the following table.

	Quarter Ended March 31 1950	Dec. 31, 1949
Great Britain and Ireland	1,895,219	1,994,191
France	473,573	422,046
United States	441,640	512,787
Japan	390,036	120,416
Holland	314,752	301,506
Sweden	310,702	297,325
Italy	264,722	214,410
Denmark	128,239	132,129
British Commonwealth Countries	126,805	80,755
(including Canada)	(68,968)	(33,150)
Spain	114,387	109,347
Norway	90,486	82,775
Belgium	69,471	65,860

Thirteen large ships, each of 20,000 gross tons and up were under construction at the end of the first quarter of this year. France was building four, Great Britain and Ireland three, and the United States and Italy three each. This compares with a total of ten in the previous quarter.

New Ship For Hall Corporation

Mention was made in our June issue, pg. 357, of the launching on May 2, at the Montreal yard of Canadian Vickers, Ltd., of the ss. Shiercliffe Hall, the fifth lake ship built by the Vickers firm for Hall Corp. of Canada in recent years, and it was recorded that the ship was christened by Mrs. Bert Hutchinson, wife of the Hall Corp. of Canada President, with those attending including Mr. Hutchinson, and J. Edouard Labelle, then President and now Chairman of the Board, Canadian Vickers, Ltd., and other officials.

An illustration of the ss. Shiercliffe Hall, as she appeared immediately following her launching, appears herewith. The ship has dimensions similar to those of her four predecessors. viz., 253 ft. long between perpendiculars, with beam at deck of 33 ft. and moulded depth of 23 ft. 6 in. Normal draft is 14 ft., increasing to 16 ft. 6 in. in coastwise or Gulf of St. Lawrence service. The ship is powered by a Skinner Unaflow engine developing 730 i.h.p. at 95 r.p.m. This engine was built by Canadian Vickers, Ltd., as were also the two Scotch marine boilers which furnish the steam; these boilers were designed by the Canadian Vickers, Ltd., Engineering Department. The new ship, like her predecessors, is fitted with aluminum lifeboats, and the modern navigation equipment includes radio, telephone and direction finder. As mentioned in our June issue reference, the chief difference between the Shiercliffe Hall and her four predecessors is that the Shiercliffe Hall is fitted with only three booms, in place of the four with which each of the other ships are equipped.

The Shiercliffe Hall's boilers are oil-fired, and the ship has bunker capacity of 216 tons. With two holds and six hatches, cargo capacity is 2,800 net tons at 14 ft., and 3,300 tons at full draft, with estimated grain capacity of 144,000 bush. Gross register is 1,985 tons, and net, 1,170, and the ship is registered at Montreal.



The Ss. Shiercliffe Hall, Built for Hall Corporation of Canada by Canadian Vickers, Ltd. This single screw canal ship, 253 ft. long b.p., is powered by a two-cylinder Skinner Unaflow engine with steam supplied by two Scotch marine boilers, oil-fired.

New Tug for Gypsum Packet Co.

A contract has been awarded Davie Shipbuilding and Repairing Co., Ltd., Lauzon, Levis, Que., by Gypsum Packet Co., for the construction of a Diesel-powered tug, 94 ft. 4 in. long and with beam of 26 ft. and depth of 13 ft. 6 in. This tug is to be powered by a set of General Motors Diesel engines developing 1,200 b.h.p., and will operate in the Hantsport, N. S., vicinity.

The 1,200 b.h.p. power plant will give the tug a speed of about 11½ knots. Delivery of the tug is scheduled for this autumn.

C.S.L. Ships Set New Records

The two large freighters built last year for Canada Steamship Lines, Ltd., continue to establish new records for grain carrying. Early in May the ss. Coverdale established a new record by taking 596,273 bush. of wheat, but this was exceeded by the ss. Hochelaga when she left Port Arthur on the evening of May 16 with a cargo of 602,000 bush. of wheat destined for Kingston, Ont.

Mainly About Marine People

S. E. Corbin, previously General Agent, C.P.R., San Francisco, has been appointed Secretary, Trans-Pacific Passenger Conference, succeeding R. V. Crowder, deceased. The Trans-Pacific Passenger Conference, with office in San Fransisco, is representative of many ship-operating companies, including American President Lines, Canadian Pacific Steamships, Canadian Australasian Line, Matson Navigation Co., The Oceanic Steamship Co. and Union Steamship Co. of New Zealand.—Mr. Corbin was born at Barnesville, Ohio, April 25, 1885, and educated at public and high schools there. He entered railway service in 1903 as general clerk, local freight and ticket office, Baltimore & Ohio Rd., Barnesville, his subsequent appointments being:—1906, ticket clerk, B. & O.R., Wheeling, W. Va.; 1909, assistant city ticket agent, B. & O.R., Washington, D.C.; 1913, Travelling Passenger Agent B. & O.R., Chicago; 1916, Travelling Passenger Agent, and City Passenger Agent, Canadian Pacific Ry., St. Louis, Mo.; 1918, second lieutenant in engineers, American Expeditionary Force, being overseas with the Transportation Corps from May, 1918, to Sept., 1919; Dec. 1, 1920, Travelling Passenger Agent, C.P.R. and C.P. Steamships, Cleveland, Ohio; 1925, assistant cruise director, C.P.S. West Indies cruise; 1926, assistant cruise director, C.P.S. Mediterranean cruise; June 1, 1926, Assistant General Agent, C.P.R., Chicago; May 1, 1930, General Agent, Passenger Department, C.P.R., Toronto; April 1, 1933, Assistant Agent, Passenger Department, Rail, C.P.R., New York, N.Y.; Nov. 1, 1933, General Agent, Passenger Department, C.P.R., Atlanta, Ga.; Jan. 1, 1935, General Agent, Passenger Department, C.P.R., Cincinnati, Ohio; Aug. 18, 1937, General Agent, C.P.R., San Francisco.



S. E. Corbin,
Secretary, Trans-Pacific Passenger Conference

N. Dobson, Principal Surveyor for Canada, Lloyd's Register of Shipping, united with the British Corporation Register, whose review of merchant ship construction throughout the world is published elsewhere in this issue, was, before joining Lloyd's Register of Shipping, Assistant Manager for Messrs. Workman, Clark and Co., Belfast. In 1919 he was appointed Ship Surveyor to Lloyd's Register, and took up duties in London, and served subsequently in Glasgow, Scotland, and in France, until 1940. He was then appointed to special duties in Portugal, and later proceeded to America, and was on loan to Canadian Wartime Shipbuilding as Shipbuilding Consultant. He acted as Technical Advisor to the Royal Commission appointed by the Government in 1942 to examine labor conditions on the West Coast, and was also Chairman of the Dobson Committee, composed of representatives of the labor unions and of employers, in connection with labor relations on the West Coast. He returned to Lloyd's Register of Shipping, in London, at the end of 1943, and in May, 1944, was appointed Principal Surveyor for Canada. He is a member of the Institute of Naval Architects and of the North East Coast Shipbuilders and Engineers. Mr. Dobson advised on June 9 that he planned to retire at the end of the month.

Arthur Randles, C.B.E., a director and General Passenger Manager, Cunard Donaldson, Ltd., has been made the recipient of the Chevalier de l'Ordre de la Couronne, a Belgian honor which was conferred by the Prince Regent of Belgium. This honor was conferred on Mr. Randles for his services to the Belgian Merchant Marine, as Director of Merchant Seamen for the Canadian Government, during the second world war. He was appointed Director of Merchant Seamen in 1941 and held the position until March, 1946, and was responsible for the organization of seamen's manning pools and training centers throughout Canada. He was made a Commander of the Order of the British Empire in recognition of these services.

A. G. Sullivan.—The appointment of Mr. Sullivan, previously Secretary, The Foundation Co. of Canada, Ltd., to the position of General Manager, Foundation Maritime, Ltd., with headquarters in Halifax, was recorded in our May issue, pg. 285. A portrait of Mr. Sullivan appears herewith.

Canadian Vickers, Ltd.

In the period May 18—June 17, Canadian Vickers, Ltd., Montreal, laid the keel of a single screw grab hopper dredge ordered by the Dominion Government. During the period, trial trips were held of the new ss. Shiercliffe Hall, built for Hall Corporation of Canada, Ltd., and the seagoing hopper dredge Sandpiper, built for Creole Petroleum Corp. Delivered during the period were the ss. Shiercliffe Hall and dredge Sandpiper and the ms. Trujillo, a coaster built for Anonima Venezolana de Navigacion, a Venezuelan firm. During the period, nine ships were drydocked for repairs and 15 ships were repaired afloat. Repairs included alterations to the ms. Norfolk, for Paterson Steamships, Ltd. The work comprised shortening of the ship by 44 ft. and raising decks seven feet, erecting new deckhouses, overhauling machinery and installing new masts and winches.



A. G. Sullivan.

New Traffic Signal Lights Lachine Canal

New traffic signal lights, to govern movement of ships at Lock No. 5, Lachine Canal, are mentioned in a recent notice to mariners issued by the Dominion Department of Transport, which states in part:—"Effective June 19th at 8 a.m., upbound and downbound vessels approaching Lock No. 5 shall be governed by the signal lights located at each end of the lock on the south side. A red signal or no signal indicates that the structure is not ready, and a green light that it is ready for the passage of a vessel. A flashing red light indicates that the lock is being made ready to receive a vessel."

C.N.S. Fares Reduced

Announcement by V. E. Eke, Passenger Traffic Manager, Canadian National (West Indies) Steamships, Ltd., at the beginning of June, recorded a 25% reduction in fares on round voyages on C.N.S. ships to British Guiana, South America, via Bermuda and the British West Indies. The new fares are effective in the ss. Lady Rodney and ss. Lady Nelson from August 23 to October 21, and in the Canadian Cruiser, Canadian Challenger and Canadian Constructor from June 1 to October 31.

Manufacturers and Suppliers

Canadian Liquid Air Co., Ltd.

Canadian Liquid Air Co., Ltd., Montreal, announces introduction of what is said to be the first line of



Garcia Studio Photo
T. R. McLagan,
President and General Manager, Canadian Vickers, Ltd.

welding and cutting torches to be designed and manufactured in Canada, and it is stated that the Canadian-made equipment incorporates improved designs surpassing anything previously available in this country.

Some of the welding torch features designed by Liquid Air engineers include leak proof seating of gas mixing chamber, using VIX-SYN "O" rings which permit hand-tight fitting without the use of wrenches; precise gas control by means of stainles steel ball seat valves in bodies of forged brass monoblock construction, and a radically new type mixing chamber which ensures thorough mixing of the gases. With the latter feature, plus a special lamellar flow device in gas passage which eliminates turbulence, it is claimed that flashbacks are prevented under all normal conditions and even under unusually difficult conditions.

Canadian Vickers, Ltd.

J. Edouard Labelle, K.C., previously President, Canadian Vickers, Ltd., has been elected Chairman of the Board, and T. R. McLagan, previously Executive Vice President and General Manager, has been elected President and remains also as General Manager. An official statement in regard to these changes said:—

"At a meeting of the board of directors of Canadian Vickers, Ltd., held on the 5th June, 1950, Mr. J. Edouard Labelle, K.C., retired from the Presidency and was moved up as Chairman of the Board. Mr. Labelle had, for some time, expressed a desire to resign from the presidency after some twelve years of service in that capacity. His colleagues on the board have prevailed upon him to devote as much attention and time to his new office as he has done in the office of President. The new President appointed is Mr. T. R. McLagan, who will also hold the office of General Manager. Mr. McLagan has been connected with the company since 1939, and, until this new appointment, has been holding the office of Executive Vice President and General Manager."

Canadian Westinghouse Co., Ltd.—Canadian Westinghouse International Co., Ltd.

Recent announcement by K. W. Fraser of Canadian Westinghouse Co., Ltd., is that A. A. McArthur has been appointed Manager of Canadian Westinghouse Central Station and Transportation Sales, and that Ralph A. Harvie has been appointed Assistant



Walter S. Beck,
Vice-President and General Manager, Canadian Westinghouse International Co., Ltd.

Manager of Sales of the Central Station and Transportation Division.

Mr. McArthur graduated from the University of Toronto in 1939 in electrical engineering and joined the Westinghouse Graduate Student Training Course. He enlisted in the Royal Canadian Corps of Signals, and was retired with the rank of major in 1945. After assignments on important central station work in the Toronto office of the company, he was transferred to Central Station and Transportation Sales Division in 1948, where he has been in charge of the sales of all transformer and large rotating machinery.

Mr. Harvie is a graduate of the University of British Columbia and also a graduate of the Westinghouse Engineering Apprentice Course. He has had broad experience in the Switchgear Engineering Division. During the years 1942-48 he was engaged in application engineering and design work for the pulp and paper, textile, mining, and steel industries.

Mr. Harvie will continue his activity in the sale of switchgear, transportation and steam apparatus.

Formation of Canadian Westinghouse International Company Ltd., with main offices in Toronto, Ontario, was announced on June 1. The new firm will engage in the export of Westinghouse products directly and through Canadian exporters.

With the organization of this new company, facilities are available for the first time to enable Canadian export purchasers to deal directly with an organization designed specifically to handle their requirements of Canadian or American built electrical equipment for shipment abroad. The sale to foreign countries of electrical apparatus, appliances, lamps and lighting equipment, and the many other products manufactured in Canada by Westinghouse will contribute greatly to Canada's export trade.

Sales activities of Canadian Westinghouse International Co., Ltd., are the responsibility of Walter S. Beck, recently elected Vice President and General Manager, who was formerly Assistant to the Apparatus Division Manager of Westinghouse International Company, New York. Mr. Beck graduated in electrical engineering from the University of Pennsylvania in 1928, and joined Westinghouse in 1936.

International Paints (Canada), Ltd.

There was recently completed by International Paints (Canada), Ltd., at the main plant property in Montreal, one of Canada's most modern and scientifically planned varnish manufacturing plants. The new plant, 183 ft. long and 81 ft. wide, provides floor area of over 11,000 sq. ft. The building height ranges from 14 ft. to 24 ft. The structure is of most modern fire and



Ralph A. Harvie,
Assistant Manager of Sales, Central Station and Transportation Division, Canadian Westinghouse Co., Ltd.

explosion proof construction, and, in addition to the actual operating space, a shipping shed has been provided, with area of 3,000 sq. ft. and with provision for loading to and unloading from box cars and tank cars. The most modern equipment for cooking, filtering and pumping the many varnishes produced has been provided, and many miles of pipes are installed for directing the numerous process varnishes to the various paint manufacturing areas of the main factory. The accompanying illustration is prepared from



A. A. McArthur,
Manager of Central Station and Transportation Sales, Canadian Westinghouse Co., Ltd.

a photograph taken at the recent official opening of the new plant.

Mack Trucks, Inc.

H. Bernard, Chief Engineer, Mack Trucks, Inc., announces the appointment of G. E. Mintz as Assistant to Chief engineer with particular responsibility for the company's bus engineering. Mr. Mintz, a Lehigh graduate and a registered professional engineer, joined the company in 1933. Following a year and a half in assembly line work on trucks and buses, he was appointed Shop Engineer in charge of Bus Construction, and held that position until 1943, when he was made Engineer in charge of the Bus Division, retaining that position until his recent appointment. He will continue to make his headquarters at the Mack factory at Allentown ,Pa.

National Steel Car Corp., Ltd.

Recent official advice is that H. S. Ashby has been appointed to the position of Assistant to General Sales Manager, National Steel Car Corp., Ltd.

The Timken Roller Bearing Co.

Mark S. Downs, General Manager, Railway Division, The Timken Roller Bearing Co., Canton, O., announced, in April, the first shipment of roller bearings for railway service direct from the Timken Canadian plant at St. Thomas, Ont. These bearings, manufactured at St. Thomas, were consigned to the Montreal Locomotive Works, Ltd., Montreal, for use in Diesel-electric locomotives. Thus, the company states, it became the first and only Canadian roller bearing manufacturer equipped to supply Canadian railways with railway size roller bearings.

Previous to this shipment, Mr. Downes stated, all Timken roller bearings for Canadian locomotives and passenger cars were manufactured and shipped from the United States. It is to be noted that both the Canadian Pacific and Canadian National have been using Timken bearings, shipped from the United States, since 1930. Of added significance to Canadian industry is the fact that the St. Thomas plant is now prepared to furnish roller bearings for passenger cars as well as for locomotives.

Mr. Downes pointed out that this first shipment of Canadian-made bearings is real evidence of the continued expansion and development of Canadian manufacturing. Timken management, long planning for this development, believes that with this shipment of Canadian-made bearings the way is open for Canadian railways to further increase installations of roller bearings on their equipment.

P.W.D. Marine Contracts

Contracts of marine interest were awarded by the Dominion Public Works Department in April as follows:

For construction of a boat harbour at Skinner's Pond, P.E.I., to Diamond Construction Co., Ltd., Fredericton, N.B., at approximately $86,106.



—Blank and Stoller photo.
H. S. Ashby,
Assistant to the General Sales Manager, National Steel Car Corp., Ltd.

For repairs to harbour works at Port Maitland, Ont., to Dean Construction Co., Ltd., Belle River, Ont., at approximately $5,907.

For wharf reconstruction at Portsmouth, Ont., to Bermingham Construction, Ltd., Hamilton, Ont., at approximately $77,290.

For wharf extension at Brule, N.S., to R. A. Douglas, New Glasgow, N.S., at approximately $12,299.47.

For dredging at Willow Cove (Port Mouton), N.S., to The J. P. Porter Co., Ltd., Montreal, at approximately $50,497.20.

For breakwater reconstruction at Glace Bay, N.S., to The J. P. Porter Co., Ltd., Montreal, at approximately $106,355.



President J. H. Davey and Vice-President E. J. Trott, of International Paints (Canada), Ltd, explain to the Directors the Operation of the Company's New Varnish Manufacturing Plant in Montreal.

For wharf extension at White Head, N.B., to Madard Comeau and Alfred Thimot, Little Brook, N.S., at approximately $29,259.

For breakwater-wharf replacement at Gabarus, N.S., to The Atlantic Bridge Co., Ltd., Lunenburg, N.S. at approximately $115,175.

For wharf reconstruction at Iberville, Que., to Elzear Cournoyer, St. Joseph de Sorel, Que., at approximately $23,977.

For dredging at Cobourg, Ont., to Russell Construction Co., Ltd., Toronto, at $31,525.

For dredging at Port Hope, Ont., to McNamara Construction Co., Ltd., Toronto, at $26,252.

For wharf extension at St. Simeon Est. Que., to Alphonse Lapointe, Matane, Que., at approximately $26,401.51.

Contracts Awarded in May

Contracts of marine interest awarded by the Department in May were as follows:

For replacement of breakwater approach at Cape Bald, N. B. to J. W. McMulkin and Son, Ltd., Upper Gagetown, N.B., at approximately $103,807.50.

For wharf repairs at Pointe au Pere, Que., to The Mitis Construction Co., Ltd., Rimouski, Que., at approximately $66,742.50.

For construction of breakwater at Prince Rupert (Fairview Bay), B.C., to Northern Construction Co. and J. W. Stewart, Ltd., at approximately $129,000.

For construction and erection of the substructure and superstructure of a highway bridge over the Rideau Canal at Ottawa, to E. G. M. Cape and Co., Montreal, at approximately $712,419.

For construction of floats at Midland, Ont., to R. A. Blyth, Toronto, at approximately $10,466.

For dredging at lower St. Louis, N.B., to Dennis LeBlanc, Buctouche, N.B., at approximately $5,475.

For repairs to sections 5 and 6 of the North Jetty at Steveston, Fraser River, B.C. to Gilpin-Nash, Ltd., Vancouver, at approximately $538,500.

For dredging at Kincardine, Ont., to Russell Construction Co., Ltd., Toronto, at approximately $46,125.

For repairs to Rideau River walls at Ottawa, to Robertson Construction and Engineering Co., Ltd., Niagara Falls, Ont., at approximately $38,827.05.

Contracts awarded previously, and not reported in these columns, were:—

For repairs to wharf at Pointe du Chene, N.B., to J. W. and J. Anderson, Ltd., Burnt Church, N.B., at approximately $66,513.75.

For fishing harbour replacement at Newport (Riviere des Ilots), Que., to James S. Watt, Little River West, Que., at approximately $237,633.90.

For construction of pier extension at Sarnia, Ont., to R. A. Blyth, Toronto, at approximately $23,838.

Awards to Weather Observers

An award, in the form of a book with inscribed bookplate, to Canadian merchant ship officers who carried out excellent meteorological observations on a voluntary basis during 1949, was announced recently by Andrew Thomson, Controller, Meteorological Division, Department of Transport. Twenty-nine Canadian ships are now participating in the international scheme whereby ships on the high seas observe the weather several times daily and report it by radio to the nearest national meteorological service. The principal observing officer is ordinarily the second officer. The master, the assisting officers and the radio officer should be recognized as contributing equally, but as concerns the awards made, the man who actually had charge of the observations was selected to receive the token of appreciation.

The Department of Transport awards to Canadian ship officers have been made to the following, the name of the officer appearing first, followed by the name of his ship:—G. Bourret, Canadian Constructor; W. Burton, Canadian Challenger; A. F. Carter, Fort Amherst; R. P. Chouinard, Imperial Winnipeg; William H. Crook, Lady Nelson; S. G. Goodyear, Fort Townshend; D. L. Heaney, Wairuna; G. F. A. Hughes, Tantara; C. D. Janes, Lake Minnewanka; M. Jacques, Yamhill; J. Kennedy, Waikawa; C. D. Ketchum, Lake Manitou; D. N. Lambton, Aorangi; J. H. Langille, Canadian Challenger; C.B.Lavoie, Canadian Constructor; C. LeLievre, Tahsis; A. E. Leonard, Pinnacles; R. E. Morris, Imperial Alberta; W. P. Murphy, Imperial Toronto; W. Ridgley, Lady Nelson; J. C. Robinson, Waihemo; A. Shard, Pinnacles; J. C. Smith, Imperial Winnipeg; G. C. Vey, Waitomo; E. Wagner, Imperial Quebec; J. S. Watson, Imperial Toronto; J. West, Aorangi; R. G. Wilkie, Lady Rodney; E. M. Willkie, Imperial Toronto; Capt. R. A. Wright, Ontario No. 1.

Crown-owned Freighter Offered

Tenders are being received to July 7 by the Park Steamship Co., Ltd., Ottawa, for purchase of the crown-owned 10,000 d.w. ton, oil-burning freighter Fort Wayne. This ship was built by United Shipyards, Ltd., Montreal, in 1945, and has been in operation by the Ministry of Transport of the United Kingdom as a naval stores issuing ship, and was returned to Canada recently. She is 424.5 ft. long between perpendiculars, with moulded breadth of 57.2 ft. and moulded depth of 37.4 ft., loaded draft being 25 ft. She is a four deck ship, powered by reciprocating triple expansion steam engines, developing 2,500 i.h.p., with steam supplied by three Scotch boilers. At time of writing, the ship is at Montreal.

Two of the conditions of sale are that any reconditioning or converting done by the purchaser must be carried out in Canada, and that the purchaser is to operate the ship under Canadian registry.

ASSOCIATIONS, CLUBS, MEETINGS

The names of the persons mentioned are those of the secretaries, unless otherwise stated

Air Industries and Transport Association of Canada—R. N. Redmayne, 610 Blackburn Bldg., Ottawa. Annual Meeting, October, 1950

Air Transport Association of America—M. F. Redfern, 1107 Sixteenth St., N.W., Washington.

American Association of Baggage Traffic Managers—E. P. Soebbing, 1450 Railway Exchange Bldg., St. Louis, Mo.

American Association of Passenger Traffic Officers—B. D. Branch, Secretary-Treasurer, 143 Liberty St., New York, 6.

American Association of Port Authorities—Paul A. Amundsen, 815 Washington Bldg., Washington 5, D.C.

American Association of Railroad Superintendents—Miss Elise LaChance, 431 S. Dearborn St., Chicago, 5.

American Railway Bridge and Building Association—Miss Elise LaChance, 431 S. Dearborn St., Chicago, 5. Annual meeting, September 18-20, 1950. Stevens Hotel, Chicago, Ill.

American Railway Development Association—W. A. Kluender, Secretary-Treasurer, 275 East Fourth St., St. Paul 1, Minnesota.

American Railway Engineering Association—N. D. Howard, 59 E. Van Buren St., Chicago, 5. Annual meeting, March 13-15, 1951.

American Society for Testing Materials—C. L. Warwick, 1916 Race St., Philadelphia 3, Pa.

American Society of Mechanical Engineers—Railroad DivisionChairman, K. A. Browne, Chesapeake and Ohio Ry. Co., 3305 Terminal Tower, Cleveland 1, O. Secretary, E. L. Woodward, Western Mechanical Editor, Railway Age, 79 Monroe St., Chicago 3. à à

American Society of Tool Engineers—J. M. Cannon, Director of Public Relations, 523 Penobscot Bldg., Detroit, 26, Mich.

American Transit Association—A. W. Baker, 292 Madison Ave., New York 17, N.Y. Annual convention, September 25-27, 1950. Biltmore Hotel, Los Angeles, Cal.

American Wood-Preservers Association—H. L. Dawson, 839 17th St. N.W., Washington 6.

Association of American Railroad Dining Car Officers—W. F. Ziervogel, 605 S. Rankin Ave., St. Louis 3, Mo. Next meeting, Sept. 19-20-21, 1950, New York.

Association of American Railroads—Headquarters, Washington, 6, D.C.—Officers: W. T. Faricy, President; J. Carter Fort, Vice President and General Counsel; G. M. Campbell, Secretary-Treasurer, and Operation and Maintenance Dept.—J. H. Aydelott,, Vice President, Washington, 6.
- Operating — Transportation Division, L. R. Knott, Executive Vice Chairman, 59 East Van Buren St., Chicago, 5.
 - Operating Section, J. C. Caviston, 59 East Van Buren St., Chicago 5, Ill.
 - Transportation Section, H. A. Eaton, 59 E. Van. Buren St., Chicago.
 - Communications Section, A. H. Grothmann, 59 East Van Buren St., Chicago 5, Ill.
 - Fire Protection and Insurance Section, W. E. Todd, 59 E. Van Buren St., Chicago.
 - Freight Station Section, W. E. Todd, 59 E. Van Buren St., Chicago.
 - Medical and Surgical Section, J. C. Caviston, 59 East Van Buren St., Chicago 5, Ill.
 - Protective Section, J. C. Caviston.
 - Safety Section, J. C. Caviston.
 - Freight Loading and Container Section, G. H. Ruhle, 59 E. Van Buren St., Chicago.
- Engineering Division, Neal Howard, 59 E. Van Buren St., Chicago.
 - Electrical Section, Neal Howard.
- Signal Section, R. H. C. Balliet, 59 East Van Buren St., Chicago 5, Ill. Next meeting, September 18-20, 1950, Hotel Statler, N.Y.
- Mechanical Division, Fred Peronto, 59 E. Van Buren St., Chicago.
 - Electrical Section, Fred Peronto, 59 E. Van Buren St., Chicago.
- Freight Claim Division, Lewis Pilcher, Executive Vice Chairman, 59 E. Van Buren St., Chicago.

Motor Transport Division, G. M. Campbell, Washington.
Car Service Division, A. F. Swinburne, Executive Assistant, Washington.
Bureau of Explosives—D. M. Grant, Inspector, lines east of Port Arthur, 342 Union Station, Toronto 1.
Finance Accounting, Taxation and Valuation Dept., E. H. Bunnell, Vice President, Washington.
Accounting Division, E. R. Ford, Washington.
Purchases and Stores Division, W. J. Farrell, Executive Vice Chairman, Washington, 6.
Treasury Division, E. R. Ford.
Traffic Dept., W. J. Kelly, Vice President, Washington.
Bureau of Railway Economics—J. H. Parmelee, Vice President and Director, Washington.
Public Relations Department—R. S. Henry, Vice President, Washington.

Association of Railway Claim Agents—F. L. Johnson, Gulf, Mobile and Ohio Rd. Co., 104 St. Francis St., Mobile, 13, Ala.

Canadian Automotive Electric Association—J. A. Bennet, Executive Secretary, 159 Bay Street, Toronto, and R. C. Sullivan, Secretary-Treasurer, 7 Dover St., Chatham.

Canadian Automotive Transportation Association—John Magee, Executive Secretary and Director of Public Relations, 146 Wellington St. West, Toronto.

Alberta Motor Transport Association — J. Taylor, 1411 2nd St. East, Calgary.

Automotive Transport Association of British Columbia—G. L. Buckman, 810 Dominion Bank Bldg., Vancouver.

Manitoba Automotive Transportation Association—M. M. Wocks, 118 McDonald Ave., Winnipeg.

Automotive Transport Association of Ontario, Inc., J. O. Goodman, 146 Wellington St. W., Toronto. Annual meeting, October 25-26, 1950, Royal York Hotel, Toronto.

Automotive Transport Association of Quebec—Camille Archambault, 1670 Parthenais St,. Montreal.

Saskatchewan Motor Transport Association—Angus A. Mitchell, 6 Victoria Park Bldg., Regina.

Canadian Car Demurrage Bureau—Eastern Lines: W. J. Collins, Manager, 885 Lagauchetiere St. West, Montreal. — Western Lines: J. T. Corrie, Manager, Winnipeg.

Canadian Freight Association—
Eastern Lines: G. F. Smith, Chairman, Room 108, 276 St. James St. West, Montreal.
Western Lines: J. F. Flynn, Chairman, Room 44, C.P.R. Office Bldg., Winnipeg.

Canadian Industrial Traffic League—H. A. Mann, 13 Adelaide St. E., Toronto, General Secretary. Divisional Secretaries:—British Columbia, T. H. Whitson, Pacific Mills, Ltd., Vancouver; Ontario, S. V. Musselwhite, Victory Mills, Ltd., Toronto; Prairie, J. Scarfe, Security Storage Ltd., Winnipeg, Man.; Quebec, A. J. Binnie, Dominion Tar and Chemical Co., Montreal. District Secretaries:—Essex-Kent, R. Scott, Canadian Industries, Ltd., Windsor, Ont.; Niagara Peninsula, W. J. Farr, McKinnon Industries, Ltd., St. Catharines.

Canadian Passenger Association — Eastern Lines: C. J. Campbell, Vice Chairman, 437 St. James St., Montreal. Western Lines: Roy H. Powers, Vice Chairman, 320 Union Station, Winnipeg.

Canadian Passenger and Ticket Agents Association—R. L. Armstrong, C.P.R., Royal York Hotel, Toronto. 1950 Convention, September 13-14-15, Niagara Falls, Ont.

Canadian Railway Club—P.O. Box 162, Montreal 3, meetings at Mount Royal Hotel, Montreal, second Monday each month, except June, July and August, at 8 p.m.

Canadian Transit Association—J. F. Neild, 35 Yonge St., Toronto.

Dominion Motor Coach Association—R. J. Musgrove, 35 Yonge St., Toronto.

Engineering Institute of Canada—L. Austin Wright, 2050 Mansfield St., Montreal. Annual meeting, July 12-14, 1950, Toronto.

Express Traffic Association of Canada—G. H. Griffin, Manager, 885 Lagauchetiere St. West, Montreal.

L'Association des Proprietaires d'Autobus de Quebec—Wilbrod Bherer, 229 St. Joseph St., Quebec, Que.

Lake Carriers' Association—O. T. Burnham, 905 Rockfeller Bldg., Cleveland, 13, Ohio.

Lake Freight Association—J. Dow, 759 Victoria Square, Montreal.

Marine Club, Toronto—H. L. Rowntree, Secretary-Treasurer, Suite 209, 9 Richmond St. East, Toronto.

Motor Truck Club of Toronto—G. Elliot, Canada Cartage Co. Ltd., 14 Cross St., Toronto.

National Association of Motor Bus Operators—A. W. Koehler, 839 17th St. N.W., Washington, 6, D.C. Annual meeting, September 13-15, 1950, Drake Hotel, Chicago, Ill.

National Fire Protection Association, including Fire Marshals, Volunteer Fire Company and Railroad Sections—M. R. Freeman, Public Relations Manager, 60 Batterymarch St., Boston, 10, Mass.

Ontario Association of Motor Coach Operators—R. J. Musgrove, 35 Yonge St., Toronto.

Railway Association of Canada—J. A. Brass, General Secretary, 437 St. James St., Montreal. Western Lines: Roy H. Powers, Secretary, 320 Union Station, Winnipeg.

Railway Fuel and Travelling Engineers' Association—T. Duff Smith, 327 South La Salle St., Chicago, 4, Ill. Annual meeting, September, 18-21, 1950, Hotel Sherman, Chicago, Ill.

Railway Mission of North America—Wm. A. Fuller, 106 Evelyn Cresent, Toronto.

Railway Supply Manufacturers' Association—A. W. Brown, 60 East 42nd St., New York, 17, N.Y.

Roadmasters' and Maintenance of Way Association—Miss Elise Lachance, 431 S. Dearborn St., Chicago, 5. Annual meeting, September 18-20, 1590, Stevens Hotel, Chicago, Ill.

Shipping Federation of British Columbia—G. E. McKee, General Manager, 45 Dunlevy Ave., Vancouver.

Shipping Federation of Canada — C. T. Mearns, 300 St. Sacrament St., Montreal. Annual meeting, third Wednesday in March.

Toronto Passenger Club—C. G. Gardner, Northern Pacific Ry., Union Station Toronto.

Toronto Railway Club—D. L. Chambers, P.O. Box 8, Postal Terminal A, Toronto. Meetings at Royal York Hotel, Toronto, fourth Monday of each month, except June, July and August.

Traffic Club of Hamilton—A. M. Johns, 4 King Street West, Hamilton, Ont. Meetings on second Thursday of each month, October to May. Annual meeting, December 14, 1950.

Traffic Club of Montreal—F. J. McCann, Hon. Secretary-Treasurer, P.O. Box 433, Montreal. Meetings at Mount Royal Hotel, third Wednesday of each month from October to May.

Transportation Club of Toronto—W. G. Hamilton, Chief Clerk, Freight Claims Office, C.P.R., Simcoe and Wellington Sts., Toronto. Annual meeting, December 7, 1950, Royal York Hotel, Toronto.



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Fire Extinguishers

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Wherever fire hazards exist, Pyrene and C-O-TWO are names worth remembering. Wherever planned fire protection is carried on under the direction of experts, there you will find Pyrene and C-O-TWO on the job—always ready to snuff out little fires before they can spread into big ones.



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Affiliated to give you complete fire protection

FOR RAILWAYS, HOTELS AND RESTAURANTS

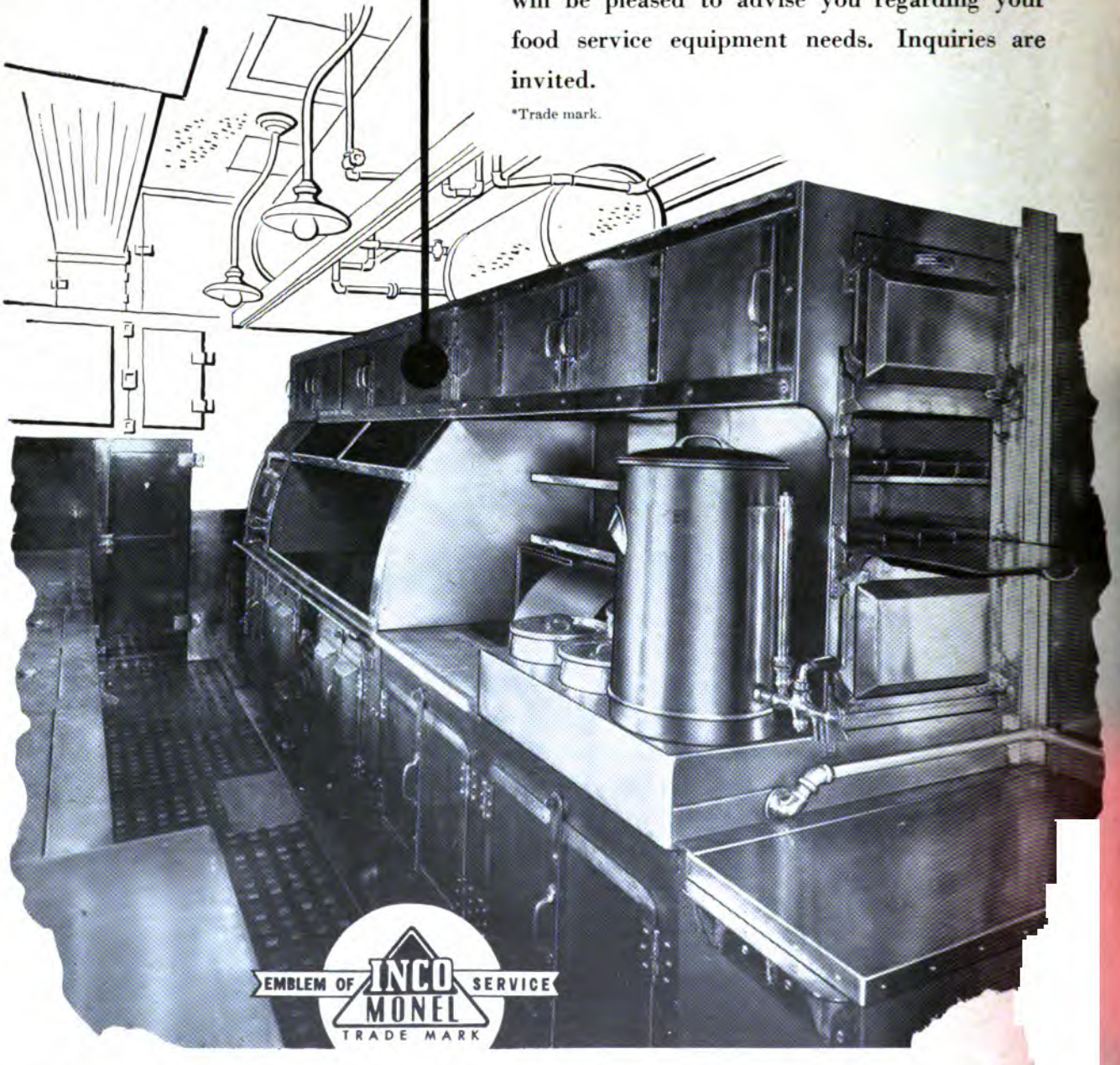
MONEL

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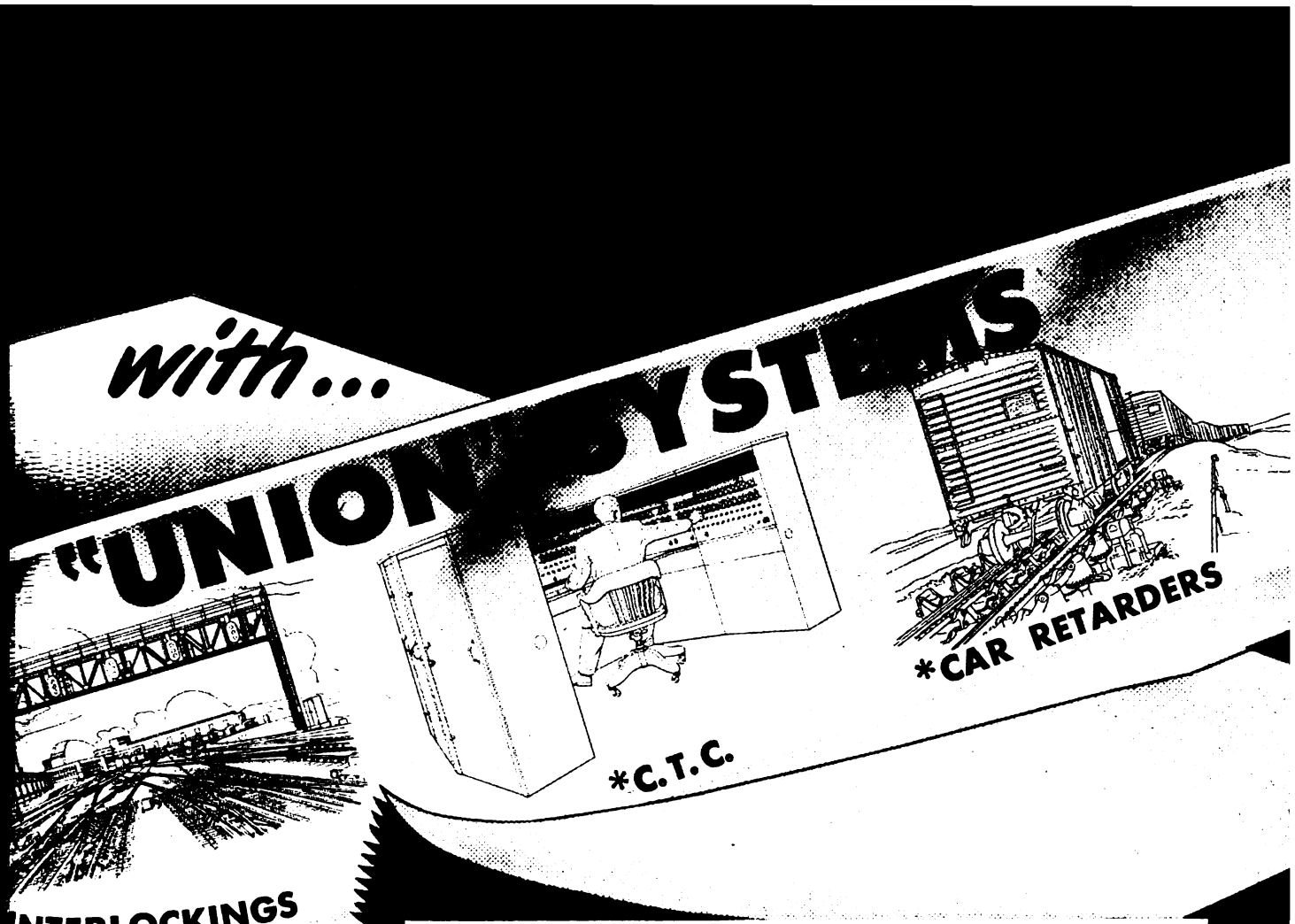


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TODAY, most of your attention probably is directed toward cutting operating costs . . . while at the same time maintaining or speeding up present train schedules . . . and certainly improving efficiency.

* *"Union" Interlockings* save you money by abolishing unnecessary train stops and speeding the routing of trains through terminals, junctions and crossovers. And, with modern *"Union" engineered controls,* numerous interlockings can be consolidated and controlled from one point . . . effecting still greater savings.

* *"Union" C.T.C.* directs train movements by signal indication . . . cuts costs and increases efficiency by eliminating written train orders . . . expedites traffic by reducing delays at meeting and passing points.

* *"Union" Car Retarders* cut costs by providing faster, more efficient classification through the elimination of unnecessary delays and congestion . . . and by making possible more effective segregation of cars by designation, they eliminate a great amount of switching at other points.

Remember . . . we're interested in helping you reduce your costs of conducting transportation. A call or letter to our nearest district office will bring a fully qualified engineer to go over your problems with you.

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PREVOST URBAN COACH

a Profit-Maker for YOU!



★ The Prevost Urban Coach is a fully serviceable unit — the answer to progressive transportation management. Canadian made, they are practical and economical . . . save you money on original cost and replacement parts.



★ Standee vision and comfort. A seventy-eight inch ceiling, large windows and wide windshield give perfect vision while standing.

★ "This bus is of integral construction . . . It is not a bus body mounted on a truck chassis. Rugged, all-welded steel construction keeps maintenance at a minimum."

★ Wide, roomy aisles give plenty of room for standing. Prevost comfort qualities attract passengers—Duoloplic seats, planned lighting, sliding sash, ample leg-room, etc.



★ Maintenance ease builds business, cuts costs! Because Prevost Urban Coaches are easier to service, they sell better service.

Illustrated is 33 passenger Urban Coach. Also available 29, 37 to 41-passenger model featuring longer body and International Red 450 engine.

★ Brief Specifications: Timken Axles; Ross steering; Lipe Rollway Mechanical clutch; Clarke transmissions; Budd wheels; Hercules Engine JXLD.

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South Western Quebec Division: Mr. ALBERT LACOMBE, 160 11th Ave., Lachine, Montreal, P.Q.

Maritime Provinces Division: Mr. ERNEST ROY, Windsor Hotel, Moncton, N.B.

Ontario and Manitoba Division: MR. W. V. GIFFEN, 28 St. James St. South, Hamilton, Ont.

Saskatchewan, Alberta and British Columbia Division: MR. CECIL BRADSHAW, 11727 Jasper Ave., Edmonton, Alta.

Newfoundland Division: MR. W. WINSOR, 400 Water St., St. John's, Nfld.

PREVOST COACH COMPANY

MANUFACTURERS

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New G·R·S Developments
Improve Yard Operation

The G-R-S Car Retarder System now offers you these new features that will reduce expenses and promote efficiency:

AUTOMATIC SWITCHING!

Switching of cars is done by pushing buttons at the hump—there's a pushbutton for each track. All retarders are controlled by one operator from a single tower. An installation may pay for itself within two years.



NEW CONTROL MACHINE!

The entire yard is laid out in miniature on the panel. All controls—for signals, retarders, and switches—are within easy reach. The machine can be used with or without Automatic Switching.



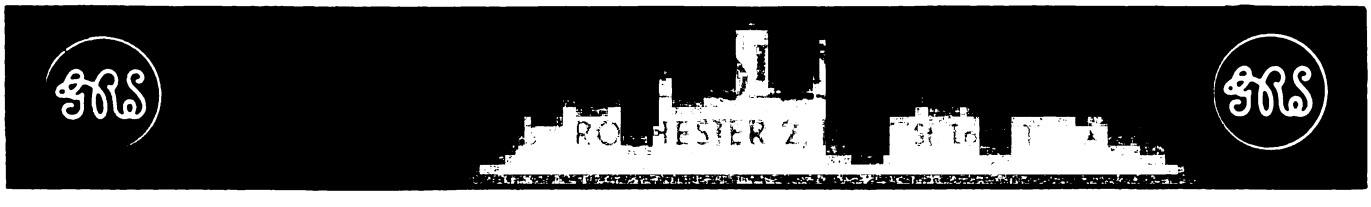
NEW CAR RETARDER!

The latest in G-R-S all-electric retarders—the Type E—is more rugged, and economical to install and maintain. It can be equipped for track circuits.



Two of the largest yards on the North American continent are installing these new developments: Unit Yard on the Canadian Pacific and Markham Yard on the Illinois Central.

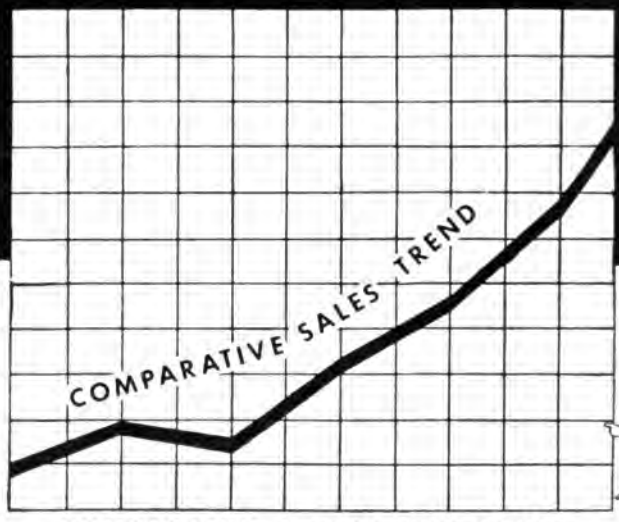
Whether large or small, your yard can use the G-R-S Retarder System to advantage. Ask your G-R-S district office for studies and estimates.



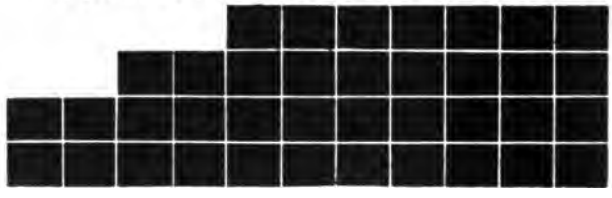
CHARLES E. FROSST & CO. consider *Business Papers Essential*



E. M. YALE,
Director of Sales
Charles E. Frosst & Co.



COMPARATIVE ADVERTISING TREND





Here's their promotion Formula:

℞ *Regular, consistent use of business papers, year in and year out.*

Special announcements as needed. Detailing and sampling. Effective window and counter displays.

Many Frosst products (including Frosst's 217's and 222's) have become nationally known due to effective promotion in business papers plus the cooperation of medical, dental, and drug professions.

The Frosst budget for business paper advertising has always been kept at a consistently high level. Their sales curve over the years shows that this policy has paid off in results.

Charles E. Frosst & Co. last year celebrated their 50th anniversary as manufacturing pharmacists. Their products are known throughout Canada.

Here's what Mr. E. M. Yale, Director of Sales, says about their advertising in business papers:

"We have always considered business papers an essential medium for the promotion of our products. Our use of these publications is always kept at a very high level in our advertising program, and our expenditure varies very little from year to year."

BNA

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OF CANADA

137 Wellington St. W., Toronto, Ont. Telephone: WA. 5462

CANADIAN TRANSPORTATION IS A MEMBER OF BUSINESS NEWSPAPERS ASSOCIATION

concrete

for Railway Unit Yard project



This large Unit Yard erected at Cote St. Luc, Montreal, includes 37 concrete stalls (approximately 30 feet by 140 feet) forming a semi-circle. The project also includes engine house, machine shop, locomotive foreman's office, railway bunk house, stores building, car repair shop and a concrete turntable pit. A powerhouse was also erected as well as a modern coaling plant.

Reinforced concrete, permanent and fire safe, was the natural choice for this Unit Yard building job. For concrete is durable and economical, too. It assures long term economy through freedom from costly upkeep. And it definitely speeds the construction work.

Write us for information on concrete for all types of building construction.

☆ *General Contractor for Coaling Plant:* Walter G. Hunt Company Limited (above)

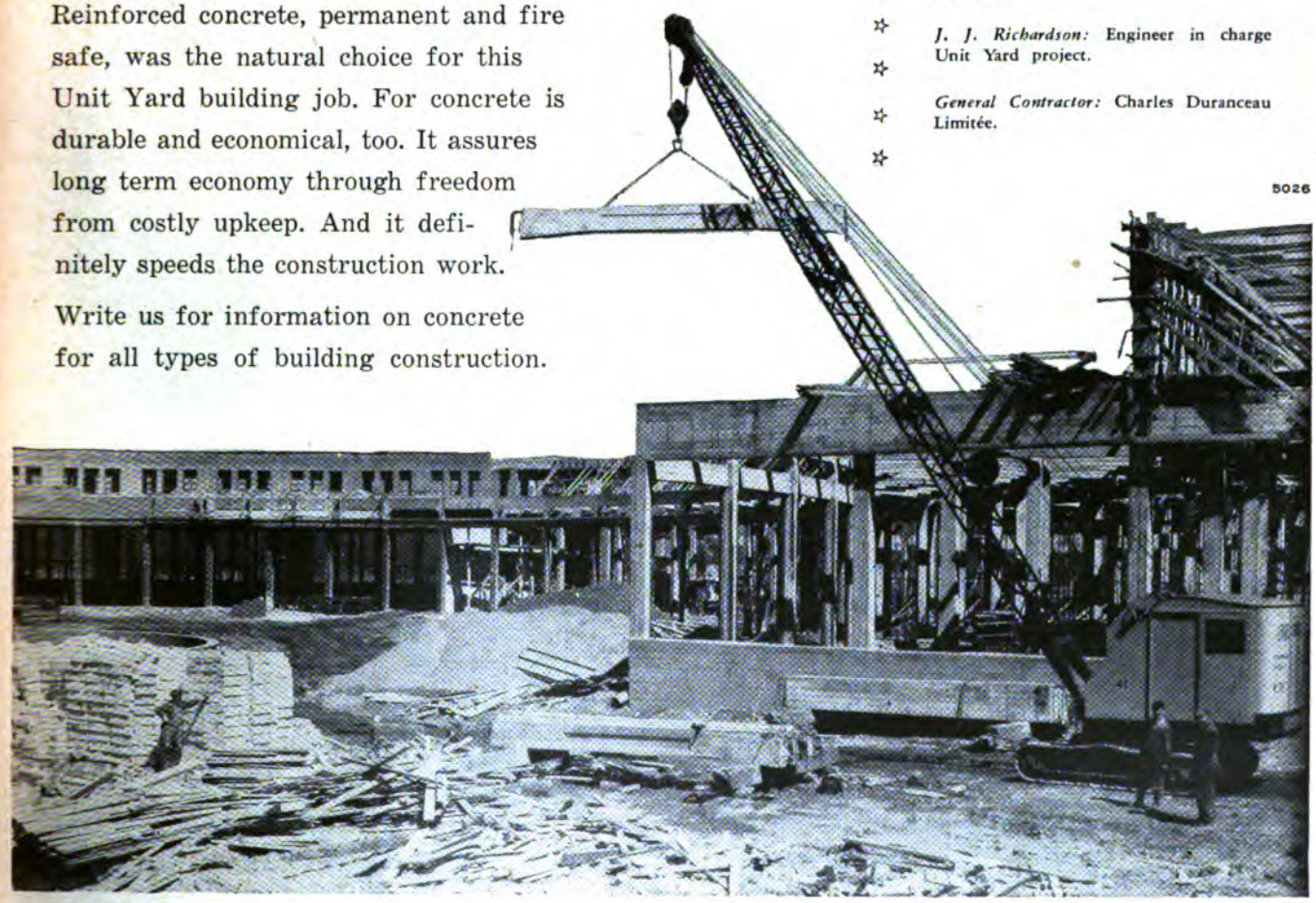
☆ *Owner:* Canadian Pacific Railway Company.

☆ *J. J. Richardson:* Engineer in charge Unit Yard project.

☆ *General Contractor:* Charles Duranceau Limitée.

☆

5026



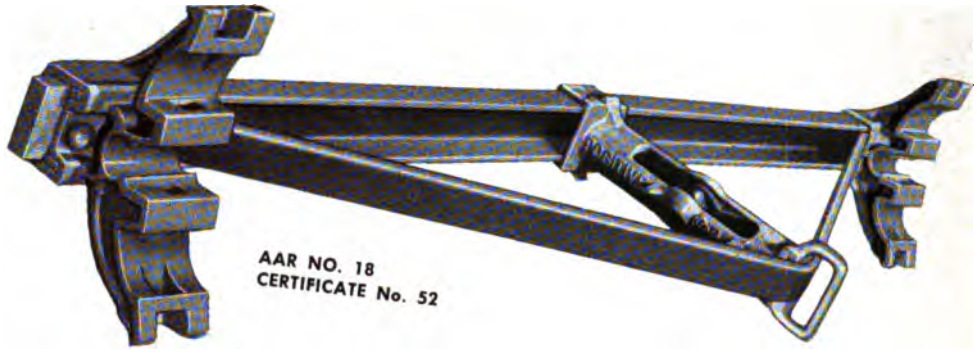
CANADA CEMENT COMPANY LIMITED

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SALES OFFICES: QUEBEC MONTREAL TORONTO WINNIPEG CALGARY

POSITIVE BRAKE BEAM
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18,000 pound capacity



No threaded rod — No nuts.
Strap tension member.
The long-lived beam that reduces maintenance.

The Positive Beam is
the Railroads' Dream.

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FUELING UNITS

Made in Canada

FOR RAPID REFUELING OF BUSES, TRANSPORTS, TRUCKS

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FLEET OPERATORS
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These neat, compact and reliable units by the "Makers of America's finest engineered pumps" are distinctive both in appearance and performance. The Bowser standard of high quality guarantees accurate measurement and efficient operation.

3 MODELS

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25-30 I.G.P.M.
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BOWSER XACTO PRINTING PUMP

For Trucks, Buses, Commercial Garages, Service Stations, Taxi Cabs, Industrial Plants. Offers a sure means of exercising complete control over liquids bought or used. Operation is positive, and printing is automatic, providing accurate and uniform records.



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344 SHERMAN AVENUE NORTH - - HAMILTON, ONTARIO
MONTREAL TORONTO WINNIPEG REGINA CALGARY VANCOUVER

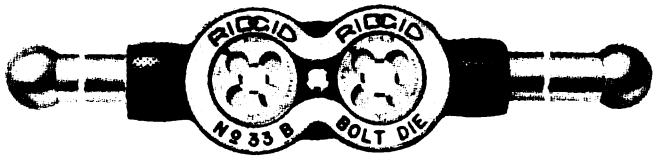
Fast, easy
BOLT THREADING

Announcing Handy New RIDGID Bolt Dies



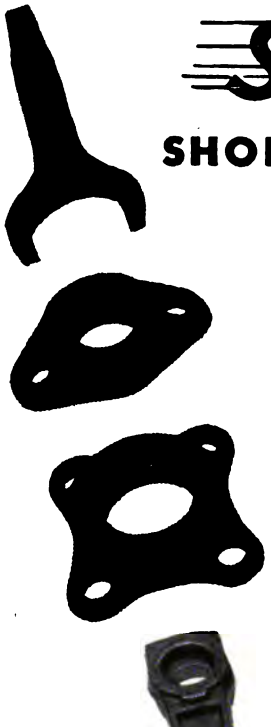
No. OOR-B—¼" to 1" National Coarse and Fine Thread.

● You're ready to thread bolts fast with these new RIDGID Bolt Dies. Dies easily reversed for threading close to bolt head. No adjustment needed for standard threads—adjust easily for undersize and oversize threads. Special steel dies, precision cut for long service. If you have a RIDGID OOR, buy bolt die heads alone, they fit OOR drive ring . . . an extra economy. Buy this new RIDGID at your Supply House.



New RIDGID 3-Way Bolt Die No. 33-B—Handy tool for ⅛", ½", ⅜".

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THE RIDGE TOOL CO. • ELYRIA, OHIO



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SHOP PRODUCTION

with

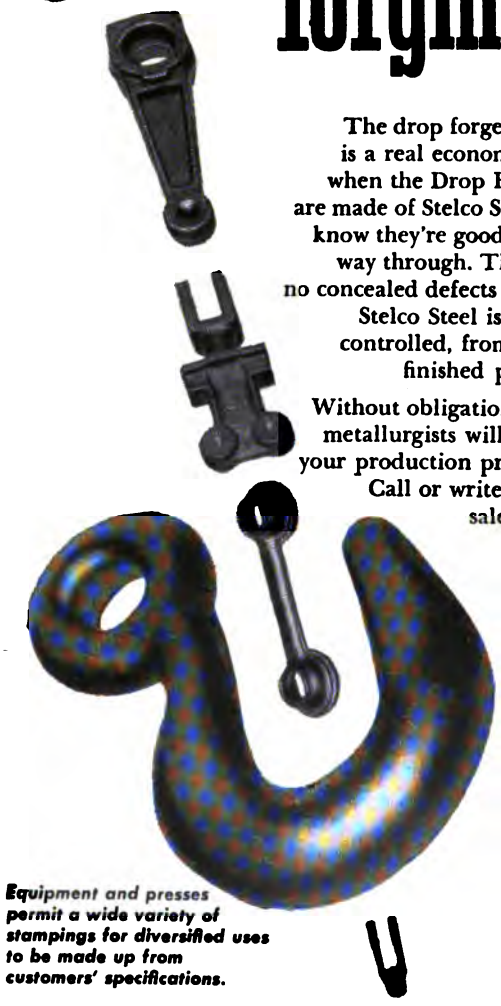
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Without obligation Stelco metallurgists will discuss your production problems. Call or write nearest sales office.



Equipment and presses permit a wide variety of stampings for diversified uses to be made up from customers' specifications.

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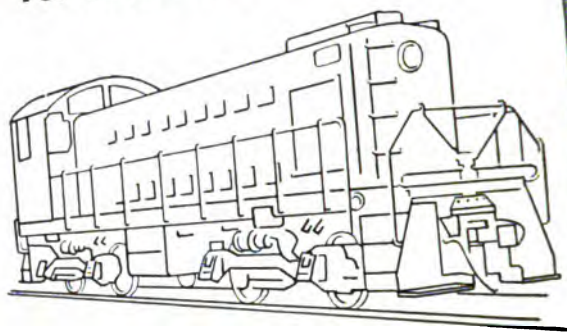
EXECUTIVE OFFICES HAMILTON-MONTREAL

STELCO

SALES OFFICES HALIFAX SAINT JOHN MONTREAL OTTAWA TORONTO HAMILTON LONDON WINDSOR KENORA WINNIPEG SASKATOON VANCOUVER J. H. PRATT & CO. LIMITED ST. JOHN'S NEWFOUNDLAND

Dependable GENERAL ELECTRIC RENEWAL PARTS

For Diesel-Electric Locomotives



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CANADIAN GENERAL ELECTRIC CO LTD

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CANADIAN TRANSPORTATION,

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Another
REASON
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Elesco Controlled Recirculation Steam Generators for *your* Train Heating

MORE THAN 36,000
Steam Generators have been designed and built during the past 66 years by this company or its associates

THE
SUPERHEATER
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Canadian Representatives of American Throttle Co., Inc., of New York

540 Dominion Sq. Bldg., MONTREAL, QUE.

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Works at SHERBROOKE, QUE.

Superheaters - Feed Water Heaters - Exhaust Steam Injectors
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URECO



Manufactured and sold in Canada under Canadian patents.

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URECO *Self-Protecting* TWIN TYPE ICE BASKETS

Vertical and horizontal wires are *projection welded at each lapping* producing a smooth interior. Woven wire and perforated sheet ice baskets cause their own destruction by offering interior projections which catch ice and cause buckling. Sturdy formed steel shelf, steel rod ice grate and the bottom shelf of oversize steel rods are the *only* places in the URECO ICE BASKET where ice can rest, thus, by its design, it protects itself against improperly placed weight and strain. Formed frame at top and bottom and steel shelf frame with mitered corners keeps the URECO ICE BASKET in its true shape.

PROVIDES STAGE ICING . . .
EASILY CLEANED

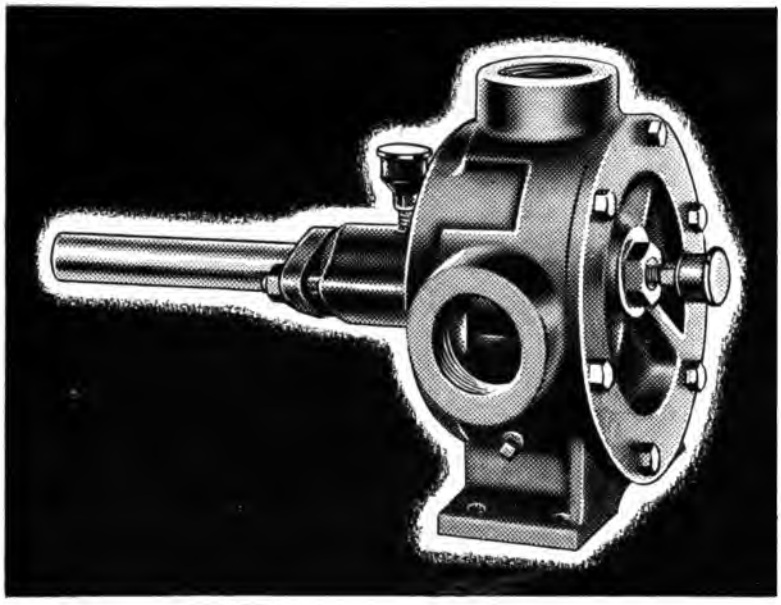
Stage icing shelf may be lowered for half-stage icing. An automatic latch holds shelf firmly in raised or lowered positions. Note design of the URECO Hand Hole Door which makes basket easily accessible for cleaning.

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Fairbanks-Morse
COMPANY *Limited*
The Departmental Store for Industry
FIFTEEN BRANCHES FROM COAST TO COAST

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IMPERIAL Bank of Canada is particularly well established in the mining districts of Ontario and Quebec with branches throughout the North. If you do business with mining communities, make use of our services.

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CHILLED IRON CAR WHEELS

for all services

RAILWAY CASTINGS
CAST IRON PIPE-FLANGED
and BELL and SPIGOT

CANADA IRON
FOUNDRIES LIMITED
HEAD OFFICE
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GENERAL ELECTRIC

RENEWAL PARTS

for

TROLLEY COACHES



keep your equipment
running smoothly

CANADIAN GENERAL ELECTRIC CO LTD

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at . . .

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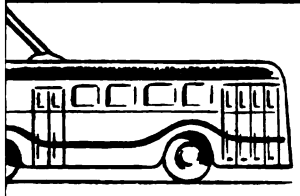
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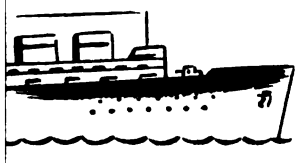
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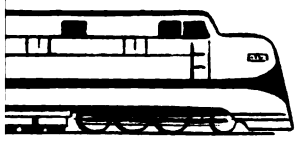
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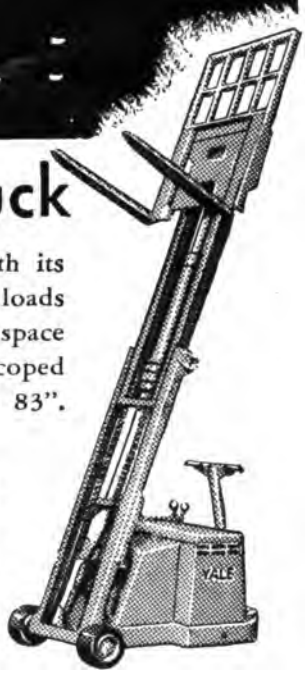
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36 TRANS-CANADA BLDG. WINNIPEG



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The remarkable Yale Worksaver with its lofty 10-ft. lift not only shoots pallet loads into the air to multiply your storage space many times over — but it can be telescoped down to an over-all height of only 83". Lifting, lowering and travelling are done by electric power. The time, money, effort and space saved pay for this speedy material handler in short order. Let us give you full information on this telescopic Worksaver. Just call our nearest office.



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Secretary,
Saskatchewan Transportation Company,
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Regina, Saskatchewan.

CANADIAN PACIFIC RAILWAY COMPANY

Dividend Notice

At a meeting of the Board of Directors held today a dividend of two per cent. on the Preference Stock in respect of the year 1950, was declared payable on August 1, 1950, to Stockholders of record at 3 p.m. on June 30, 1950.

By order of the Board.

FREDERICK BRAMLEY,
Secretary.

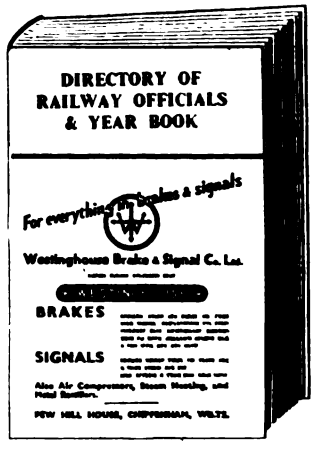
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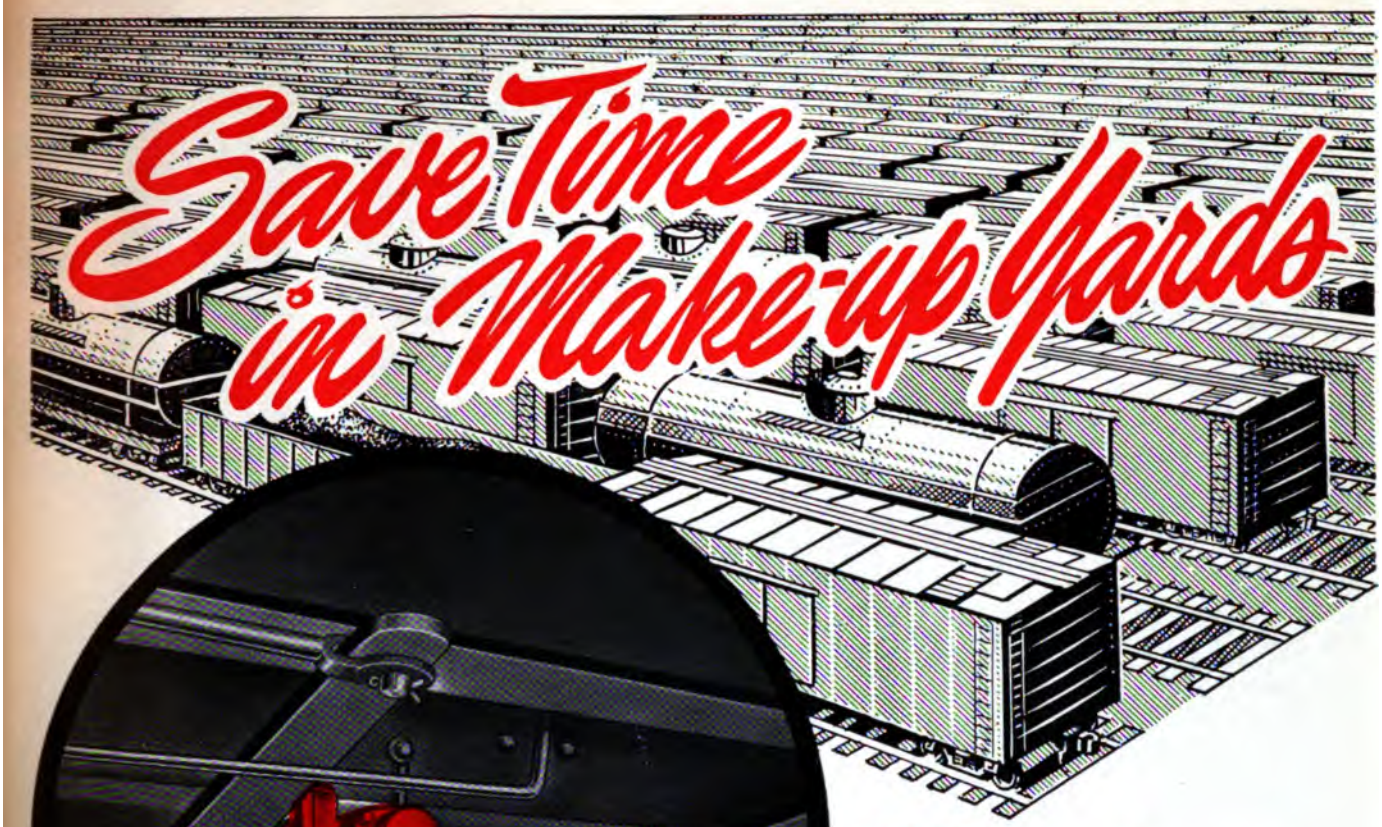
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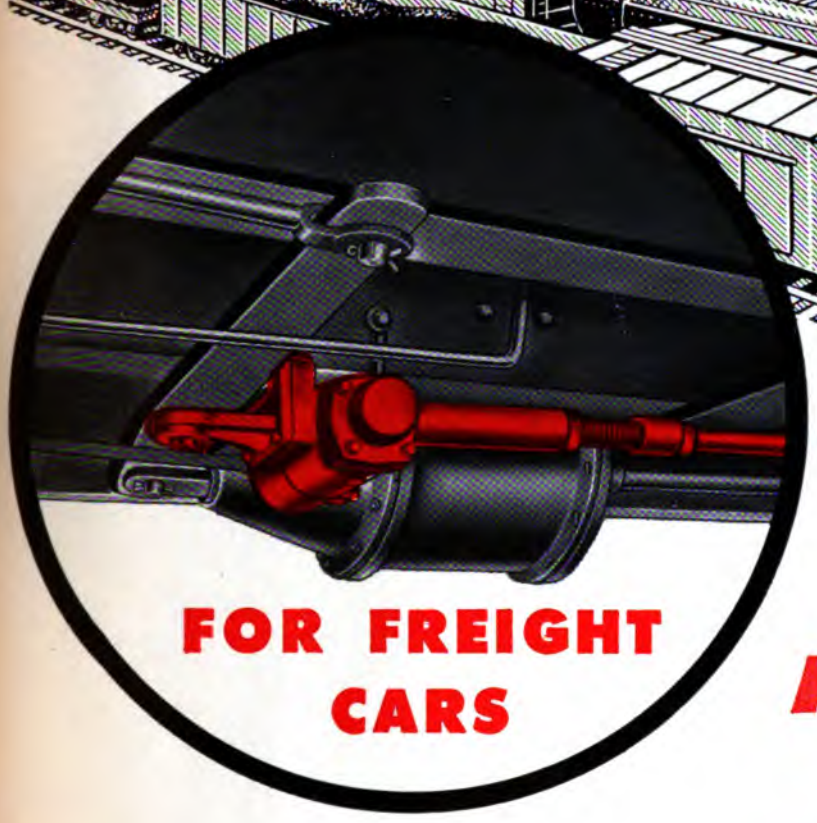
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Save Time in Make-up Yards





FOR FREIGHT CARS

Westinghouse Pneumatic AUTOMATIC SLACK ADJUSTER

EASILY INSTALLED
No mounting brackets required.

STURDY CONSTRUCTION
Shock resisting materials used throughout. Built for the life of the car.

MINIMUM MAINTENANCE
No manual adjustment required for the life of the brake shoes.

SIMPLE ADJUSTMENT
Only simple manual adjustment required when brake shoes are replaced.

Streamline your yard operations by eliminating the manual adjustment of rigging on freight cars!

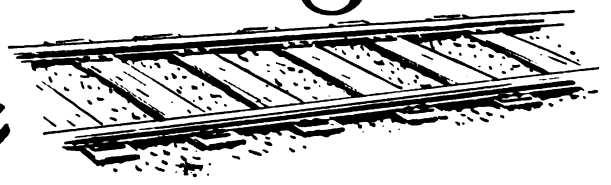
This new Westinghouse Automatic Slack Adjuster is basically the same as used so successfully for many years on passenger cars.

You can apply it to existing freight car equipment with only very minor changes in the brake cylinder lever system.

Ask about it or write for Descriptive Leaflet 2468.

971 T 900

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Air Brake Division

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Imperial Oil's 70 Years' experience Serving Canadian Transportation

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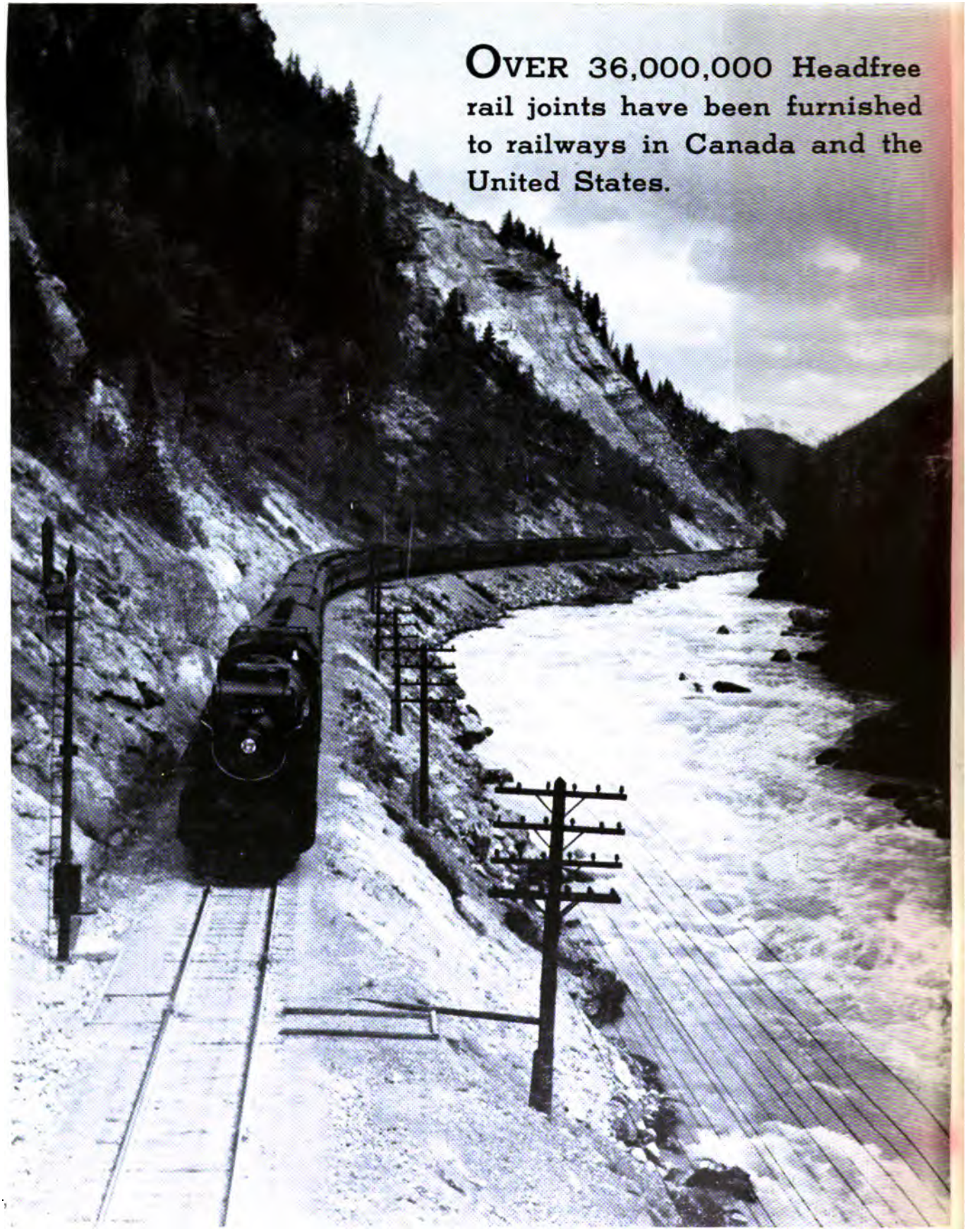
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Founded 1898 by Acton Burrows

TORONTO, AUGUST, 1950

RAILWAYS ELECTRIC RAILWAYS TROLLEY COACHES AUTOMOTIVE AIR MARINE





Canadian Pacific Railway photo, Kicking Horse River, B.C.

The Rail Joint Company of Canada Ltd.

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NO PROGRESSIVE RAILROAD CAN OVERLOOK

ITS PROVEN SAFETY AND DEPENDABILITY...

TRUCK

How TRANSITE PRESSURE PIPE meets 5 basic water-line problems

If you are faced with some — or all — of these common water-line problems, here is information about J-M Transite Pressure Pipe that may be of help to you . . . facts that tell how this modern asbestos-cement pipe is helping to solve these problems in many communities.

1. Handling and Installation costs:

Light in weight and easy to handle, Transite Pipe keeps costs down, because loading, unloading and other handling operations are simplified. Installation economies include quick assembly in the trench with a minimum of time and labour. Average size pipe sections are easily lowered into the trench with rope slings.





2. External and Internal corrosion:

Transite Pressure Pipe is exceptionally resistant to corrosion. This fact has been substantiated by numerous installations in corrosive soil. Equally important, internal corrosion, due to tuberculation, is never a problem in a Transite Pipe line. Pressure and flow remain high — reduces pumping costs. This helps to provide better service at lower water rates.

3. Joint leakage:

Transite's Simplex Coupling was designed to eliminate joint leakage . . . and to provide maximum protection against failures resulting from trouble at joints. This coupling assures tight, flexible joints that stay *tight* in service. Each joint may be checked immediately upon completion. A simple coupling puller is the only tool necessary for assembly.





4. Vibration and stresses:

Transite's flexible joints effectively absorb the vibration of heavy traffic — an important factor where pipe is laid under busy streets or near car lines. Joints are capable of deflection up to five degrees. This helps compensate for soil movements and other stresses . . . provides an effective safeguard against costly pipe failures.

5. Maintenance:

In hundreds of Canadian communities Transite Pipe lines provide low-cost water transportation and require little, if any, maintenance. Transite lines do not have to be cleaned, lined or replaced to maintain their flow capacity. Transite assures economies that continue through the years.

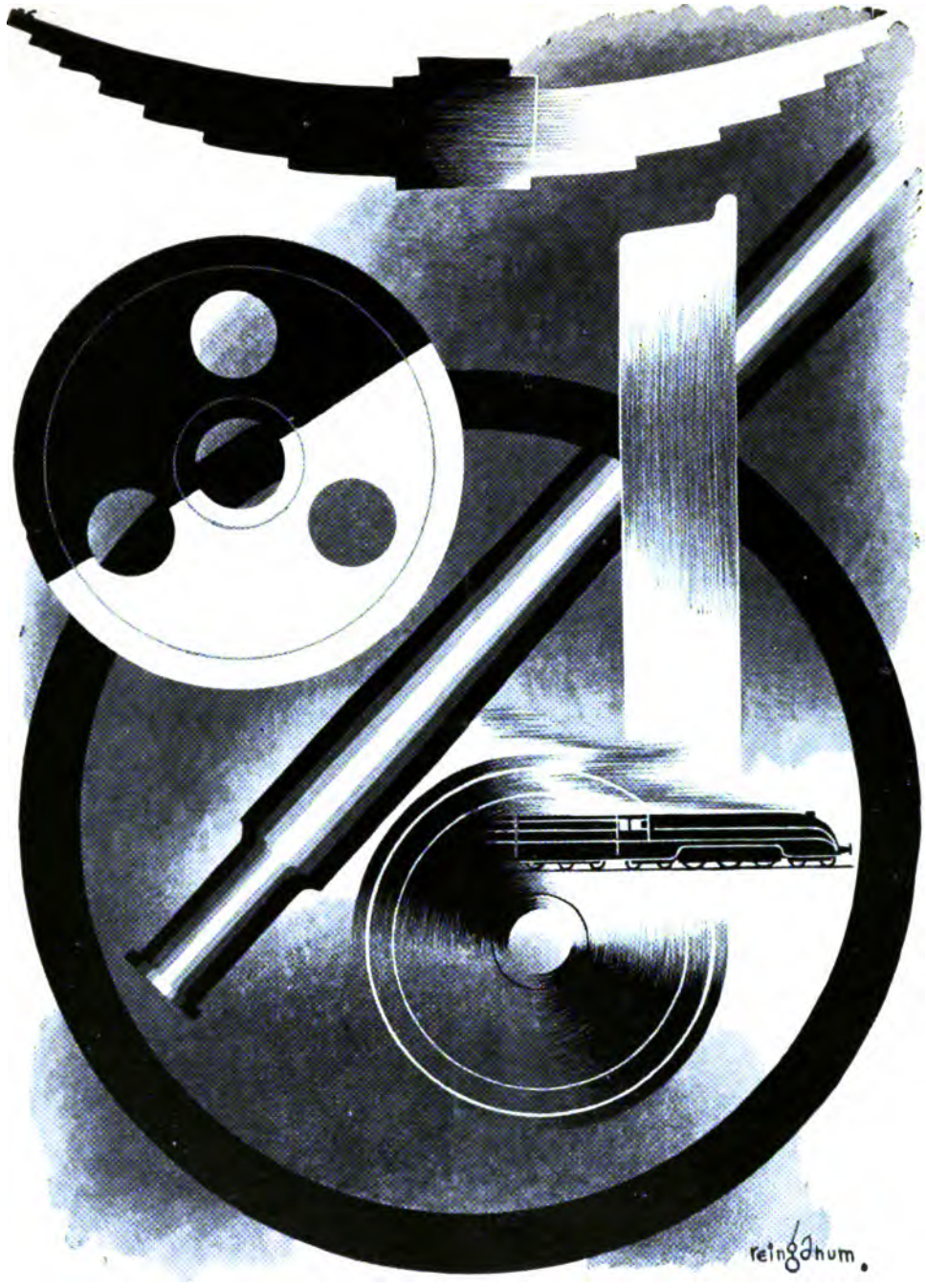


JOHNS-MANVILLE JM PRODUCTS 1-206

If you would like additional information about Transite Pressure Pipe, write to Canadian Johns-Manville, Dept. 597, 199 Bay Street, Toronto.

*Transite is a Johns-Manville registered trade-mark.

Johns-Manville Transite* Pressure Pipe



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From the Steel, Peech & Tozer mills emerges a constant stream of railway tyres, wheel discs and solid wheels, for destinations all over the world. Wherever railways run, these products are everywhere proving their reliability.

Additionally the forges produce carriage and wagon axles, locomotive axles, straight and cranked, etc. An associated works specialises in finished wheel and axle sets. Laminated and other railway springs are also produced.

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High Strength
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This application of Monel is but one of many ways the well-known Inco Nickel Alloys are serving the railway industry.

Cheaper In The Long Run

Today, manufacturers and users of a wide variety of equipment regard Monel as sound investment. Case histories prove conclusively that the ultimate cost of this nickel alloy is surprisingly low.

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VAST and diversified are the piping needs of Canada's railways—but they are all met, conveniently and dependably, by the complete Crane line. It provides the right valves, piping, and fittings to handle steam, water, oil, air, gas and other fluids—for mobile or stationary units—for shops and yards, cars and locomotives, station buildings and power plants.

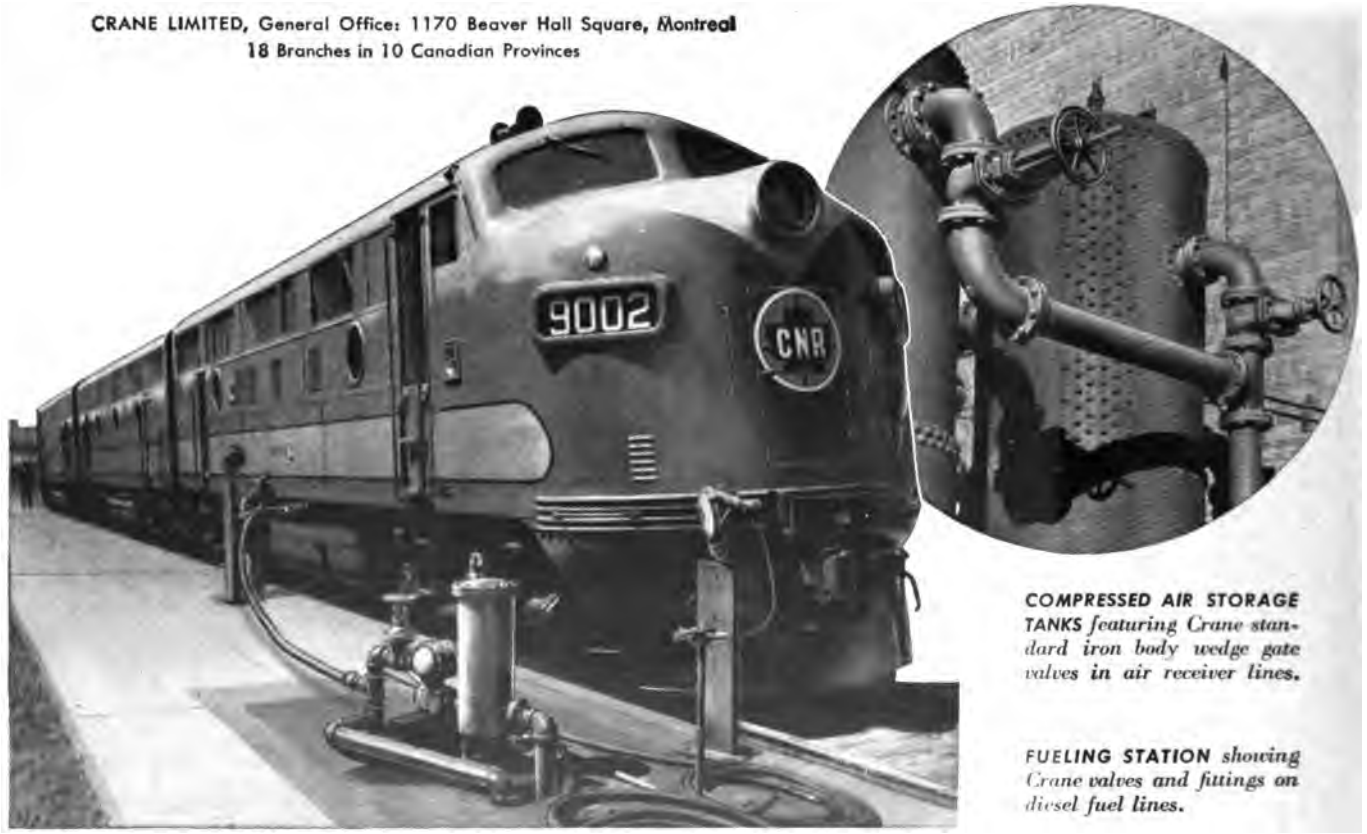
For the railways, as for so many Canadian industries, Crane provides not only a complete source of supply for everything in piping, but also the assurance of high quality in every item for long, dependable service.

For complete information on any particular requirements, ask your Crane Branch, or write direct to:

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MAIN STEAM LINES *in railroad station boiler room, equipped by Crane. The broad Crane line includes all types of valve operating equipment.*



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with FLAME-HARDENING

Are you taking full advantage of the flame-hardening process in your shops? This list will help you compare the flame-hardening operations that are being done on your railroad with the broad application of this money-saving process in scores of shops using OXWELD equipment. Usually you can adapt existing setups to harden any additional parts.

Write for booklet F-5422 which discusses flame-hardening principles as they apply to railroads. Canadian Railroad Service representatives will be glad to review your flame-hardening operations with you.

HERE IS A CHECK-LIST ON FLAME-HARDENING

Locomotive Parts

Articulating pins

Booster gears
Booster shafts
Brake beam trunnions
Brake rigging pins
Buffer castings
Buffer radial blocks
Buffer wedges

Chafing castings
Cradle pins
Crosshead guides — bar type
Crosshead guides — multiple bearing
Crosshead shoes

Drawbar pins
Driver spring equalizers
Driver spring saddles
Driving box liners
Driving box jaw surfaces
Driving wheel lateral wedges

Equalizers
Equalizer crossbars
Equalizer pins

Floating crosshead guide housing

Knuckle pins
Knuckle pin bushings

Lead truck boxes
Lead truck pedestal jaws
Lead truck rocker bearings
Lead truck rocker castings
Lead truck rocker seats
Lead truck swing bolsters
Links
Link boxes

Pedestal shoes
Pedestal wedges
Piston head ring grooves
Piston valve packing rings

Reversing yokes

Slack adjusting wedges
Spring hangers
Stoker gears
Stoker racks
Stoker screws
Swing hangers
Tender truck journal boxes
Trailer equalizers
Trailer rocker plate
Trailer rocker plate rollers
Trailer truck rocker castings
Truck equalizer pins (electric locomotives)

Valve crossheads
Valve crosshead gibs
Valve crosshead guides
Valve crosshead shoes

Wrist pins

Coach Parts

Buffer castings
Buffer stems

Coupler knuckles

Equalizer seat inserts

Generator drive pulleys

Journal box wedges
Journal box wedge seats

Slack adjusters
Spring seats

Truck equalizers
Truck pedestals

Car Parts

Bolster spring seats
Buffer castings

Coupler carrier castings
Coupler knuckles
Coupler lock
Coupler lock lifter

Hopper car door lock

Journal brass wedges

Side bearing parts

Others

Crane wheels

Derrick bearings

Punch or die blocks

Spring stripper blocks

Tractor traction bearing rolls
Travelling crane pinions
Turntable rollers

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350 Bay Street **Toronto 1, Ontario**



SINCE 1924—THE COMPLETE OXY-ACETYLENE SERVICE FOR CANADIAN RAILROADS

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Racor Switch Point Locks

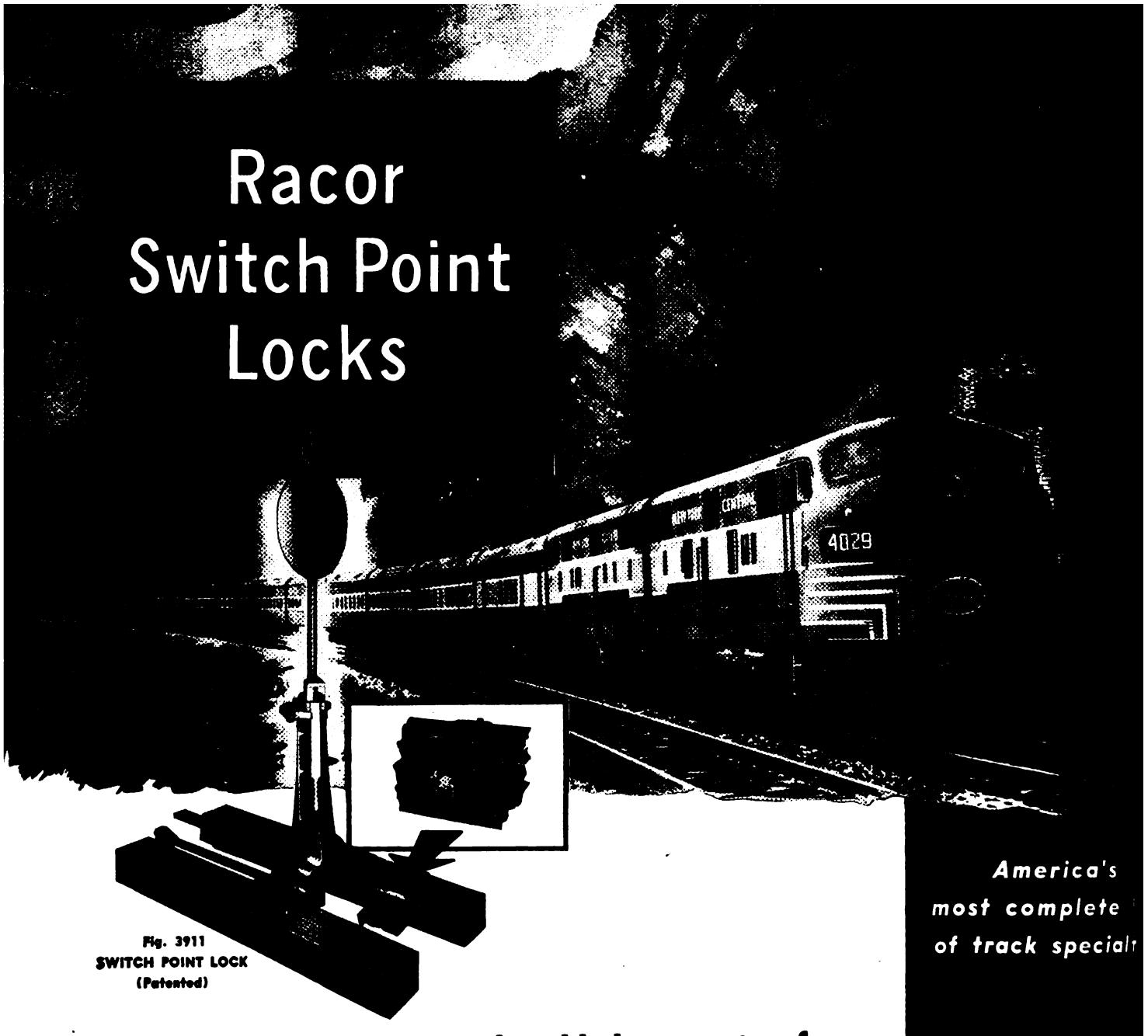


Fig. 3911
SWITCH POINT LOCK
(Patented)

America's most complete
of track specialt

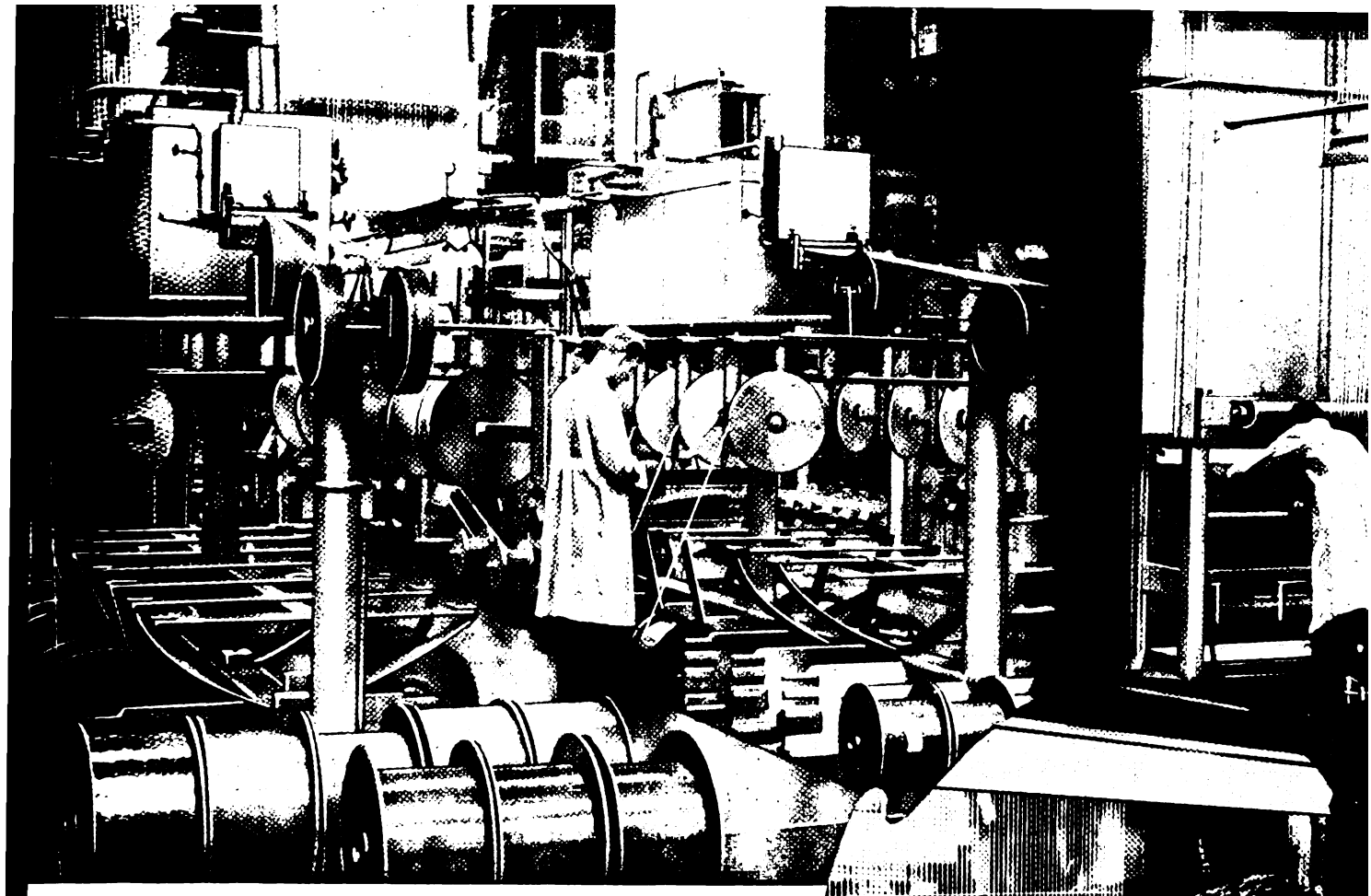
Provide added protection for New York Central's passenger train operation.

Essential to the safe operation of these trains, facing point switches must be secured in a closed position, regardless of failure or damage to the throwing mechanism. Racor Switch Point Locks can be installed with all designs of main line switch stands. Ruggedly designed — easily installed below top of ties as protection against damage, they function independently of stand.

Fig. 3911 (illustrated) for use with all types of column throw stands.
Fig. 3912 available for use with all types of ground throw stands.

Brake Shoe

ANADIAN RAMAPO DIVISION
IAGARA FALLS ONTARIO



ENERAL ELECTRIC

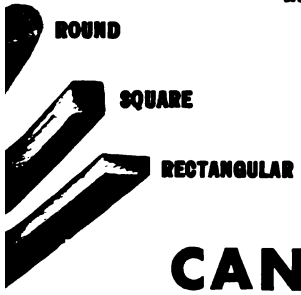
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Two great magnet wires to fill every winding need

To provide a full range of sizes, shapes, and insulations . . . for a wide variety of applications . . . there are two great G-E magnet wires—Formex, for temperatures to 105 C; and Deltabeston, for temperatures to 125 C.

Formex is a tough, workable magnet wire—insulated with synthetic resin—that is famous for speedy winding and extremely long operating life. Chemical-resistant, heat-shock-resistant, abrasion-resistant, small-diameter Formex magnet wires are available in all common sizes and shapes.

Deltabeston magnet wires, insulated with glass or with asbestos, are high-heat magnet wires that permit operation at temperatures higher than those allowable for ordinary cotton or enamel-insulated wires. Deltabeston magnet wires are available in all the usual sizes and shapes.



Manufactured in the most modern wire plant in Canada

Upper: Processing Formex magnet wire from hard-drawn copper wire. A feature of these machines is the continuous pre-annealer which softens the wire before application of the synthetic varnish.

Lower: Close-up of the applicator where Formvar varnish is added in successive coats during Formex manufacture until the required insulation thickness is reached.

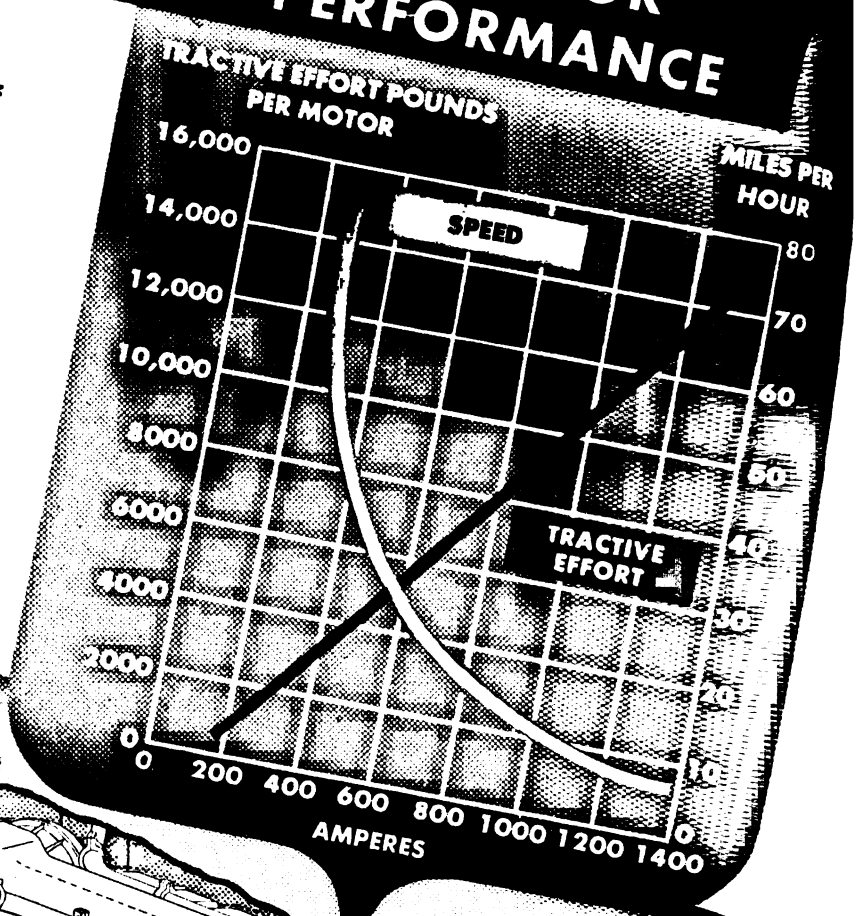
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Head Office: Toronto — Sales Offices from Coast to Coast

MOTORED FOR TOP PERFORMANCE

The stamina and reliability of the GE-752 traction motor have been proved in service on leading railways in Canada and the rest of the North American Continent. Millions of miles of service in every class of passenger, freight and switching service are behind this new design.



Electrical Components
Manufactured by
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ALCO-DIESEL Engines
Manufactured by
DOMINION ENGINEERING WORKS LIMITED

WER locomotives
u/ MORE trains faster

To help you increase the earning power of your road in the face of growing competition, the new MLW-GE diesel-electric performs two vital services. It makes it possible to increase freight loadings by greatly improving schedules, and it makes it possible to turn a larger portion of the revenue into net profit by reducing motive-power investment and operating cost.

In this great proved-in-service locomotive, the high inherent availability and speed of the diesel-electric have been enhanced by higher tonnage ratings. This permits railways to further reduce the number of locomotives required and still improve service to shippers.

Such availability and speed are the results of a locomotive proved in service on leading Class 1 railways in the U.S. This design includes a powerful 12-cylinder diesel engine high-level turbosupercharger, specially developed generator, power plant regulating system and engine cooling system. And converting all this surging power into tractive effort is a superb motor which has proved in millions of miles of service that it has the rugged characteristics on which depend the handling of more trains at faster speeds with fewer locomotives.

The unusually high continuous and short time tractive ratings of this GE-752 traction motor allow you to haul more tonnage over a given profile. Optional gearing permits you to select the range of speed best suited to your operating conditions. The combined result is a motor—and a locomotive—that will enable you to move more tons over greater distances in less time and enable you to get more work from fewer motive power units.



Built in Canada, this mighty freight locomotive is bringing new earning power to Canadian railways.

Built in Canada

50-BM-5

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WORKS LIMITED
MONTREAL - QUEBEC

Nickel Steel withstands impact at 320° below zero...

Identical test pressure vessels made of carbon steel and 8½% nickel steel (AISI 2800) were subjected to severe low temperature impact tests at the Air Reduction Company Apparatus Research Laboratory, Murray Hill, N.J. Temperatures were maintained at −320°F. by means of liquid nitrogen. Heavy weights were dropped from a height of five feet on both vessels. The carbon steel vessel shattered on the first blow. The 8½% nickel steel vessel withstood repeated heavy blows on all sections. Complete test details and data sheets "Properties of Nickel Alloy Steels at Low Temperatures" are available on request.



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for 5 units...or 500



EXPERIENCED OPERATORS *specify* National Pneumatic DOOR CONTROL

● On transit operations of every size, everywhere, NP Door Control is the overwhelming choice. For operators know that they can depend on National Pneumatic—by far the world's foremost producer of door control and safety equipment.

For nearly fifty years, every important advance in door control has been pioneered by National Pneumatic.

NP improvements have always been applicable to all operations, regardless of size or type. Of particular benefit to smaller operators is the wide-spread availability of National Pneumatic service if it is ever needed. Whatever your classification, you can count on unequalled operating efficiency and economy when you rely on equipment bearing the familiar NP trademark.

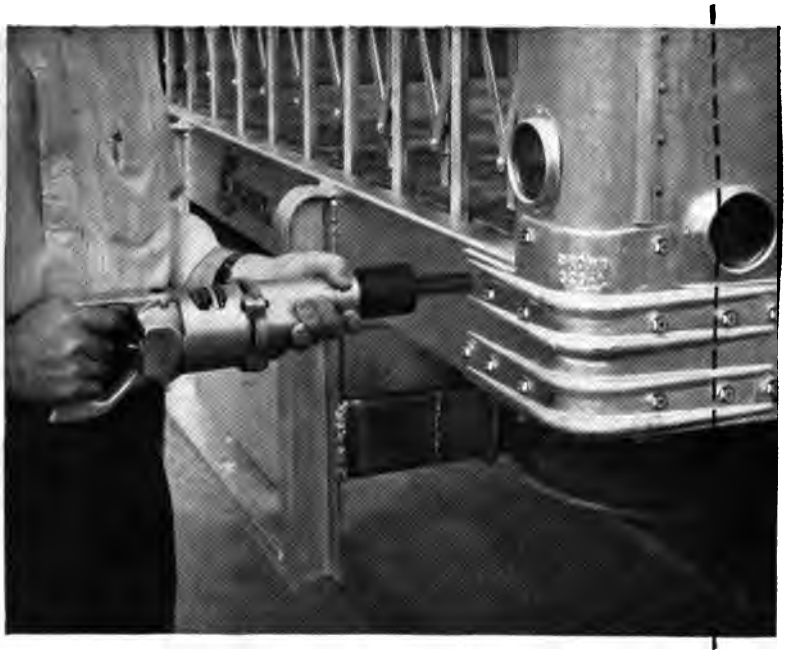
NP

Be Sure . . . Always Specify NP Door Control

Sales Representatives

RAILWAY & POWER ENGINEERING *Corporation Limited*

NEW GLASGOW • MONTREAL • NORANDA • NORTH BAY
TORONTO • HAMILTON • WINDSOR • WINNIPEG
EDMONTON • VANCOUVER



now you can speed heavy sheet metal assembly

Basically a blind mechanical rivet, the Blind Bolt saves you time and expense in production or maintenance. A three-piece assembly, the Blind Bolt consists of a hollow rivet, an inner screw and the expanding nut.



To install the Blind Bolt an inexpensive Cherry adapter tip is engaged to an automatic screw driver. This adapter tip fits the recess in the screw head of each Blind Bolt. Operation of the tool rotates the screw. The expanding nut is drawn over the rivet shank until it butts against the blind side of the job. When the sheets are drawn tightly together, the screw driver releases automatically at the pre-set torque, leaving the Blind Bolt securely installed.

install blind bolts and save time

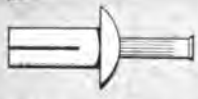
You can save time with Blind Bolts because they're installed from one side of the job... that makes it easier to handle heavy sheet metal assemblies. Blind Bolts have the shear and tensile strength you need and install fast. After two or three Blind Bolts align the job, it's only a matter of seconds to finish up. Write for complete literature today.

FIRST... look to Cherry Rivet Company's complete line of blind rivets and high strength structural bolts.

FIT YOUR FASTENING JOB EXACTLY



CHERRY RIVETS, the standard of industry, are available in more rivet types and a greater range of diameters—grip lengths—and material thickness tolerances than any other blind rivet manufactured and many other fasteners.



DRIVE PIN RIVETS. Ideal for fastening light sheet to heavier sheeting or to framework where rigidity is great enough to withstand hammering. As simple as hammering nails, you can save valuable time on sheet metal jobs with Drive Pin Rivets.



LOCK BOLT. A high-strength, structural, non-blind bolt to be used where **shear and tension** loads are high. **Will not loosen** in service. **Ease of installation** saves time. You **save considerable** weight over **nuts and bolts.**



UTILITY RIVET. A low-cost, straight stem, mechanical blind rivet offering many advantages of the Cherry Rivet but manufactured to more liberal standards. They are installed with Cherry Tools equipped with adapters.

WRITE FOR DETAILS TODAY!

CHERRY RIVET COMPANY

Canadian Distributor

RAILWAY & POWER ENGINEERING CORP., LTD.

New Glasgow Montreal Noranda North Bay
Toronto Hamilton Windsor Winnipeg
Edmonton Vancouver

RAILWAY & POWER ENGINEERING CORP., LTD.
169 EASTERN AVE., TORONTO

- ☐ DRIVE-PIN RIVETS
- ☐ CHERRY BLIND RIVETS
- ☐ LOCK BOLTS
- ☐ CHERRY TOOLS
- ☐ BLIND BOLTS
- ☐ UTILITY RIVETS

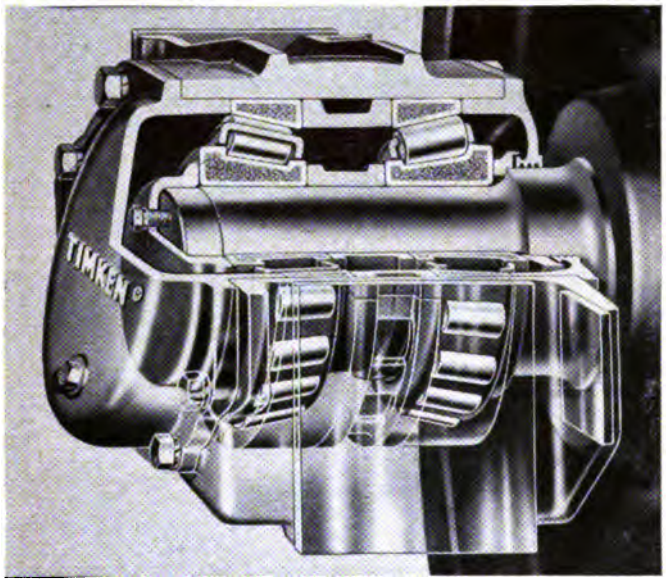
Please send me detailed information on Cherry Rivet Company products as checked here:

Name_____ Firm_____

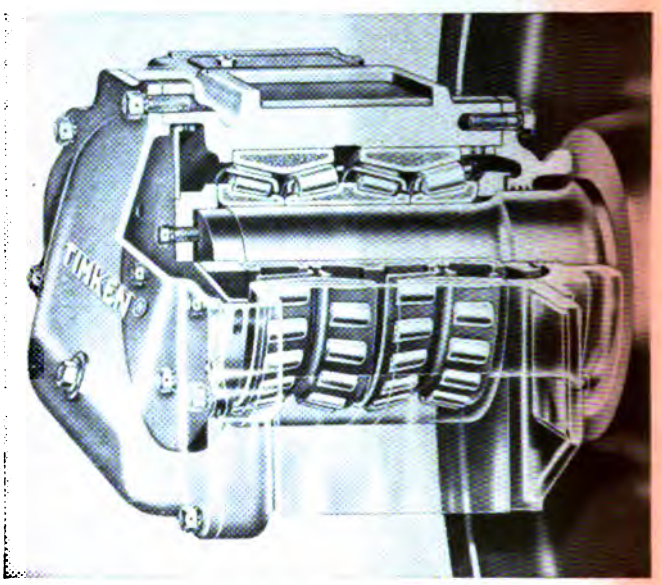
Address_____

City_____ Province_____

Now you can get the finest railroad bearings: TIMKEN®, "made-in-Canada"



DIESEL LOCOMOTIVE APPLICATION



PASSENGER CAR APPLICATION

ROLLER bearings for Canadian railroads are now being produced in Canada, at the Timken plant in St. Thomas, Ontario.

For 20 years, Canadian railroads have been insuring higher speeds and greater riding comfort by equipping their passenger cars and lately their diesel-electric locomotives with Timken bearings.

This new, close, "home" source of supply is the latest advantage that Canadian railroads get with Timken tapered roller bearings. Others include: 88% less starting resistance—with smoother starts and stops. Elimination of all speed restrictions due to bearings. Savings in fuel and maintenance costs.

No other railroad bearing has so much to offer—no other is so fully proved. And no other railroad roller bearing is *made in Canada.* Specify the bearings with the trade-mark "Timken". The Timken Roller Bearing Company, St. Thomas, Ontario. Cable address: "TIMROSCO". Canadian Representatives for Timken bearings for Railroads: Railway & Power Engineering Corp., Ltd., New Glasgow, Montreal, Noranda, North Bay, Toronto, Hamilton, Windsor, Winnipeg, Edmonton, Vancouver.

TIMKEN TAPERED ROLLER BEARINGS

TRADE-MARK REG. U. S. PAT. OFF. AND IN CANADA

NOT JUST A BALL ◯ NOT JUST A ROLLER ⬭ THE TIMKEN TAPERED ROLLER ⬭ BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION

WILMINGTON TROLLEY COACHES RATE



"GOOD" for Appearance

"GOOD" Mechanically

"GOOD" for a Million Miles

In the records of Delaware Coach Company, the word "Good" appears opposite every one of the system's 72 trolley coaches.

When Delaware Coach — the company that serves Wilmington—says a coach is "good," it means "next to new," or almost as good mechanically and in appearance as the day it went into service.

Fifty-five of the Wilmington coaches have been on the job more than ten years, have traveled as far as half a million miles, have always earned a net profit for Delaware Coach Company.

They show few signs of age. Shining with a new coat of paint, they move quietly and efficiently through Wilmington's busy streets. It's easy to understand why their owners expect these rubber-tired electrics to give several more years of first-class service. They say they're "good for a total of close to a million miles."

"Good for a million miles, looking like a million dollars." That's the story on trolley coaches in Wilmington at the ten-year mark.

4007-T

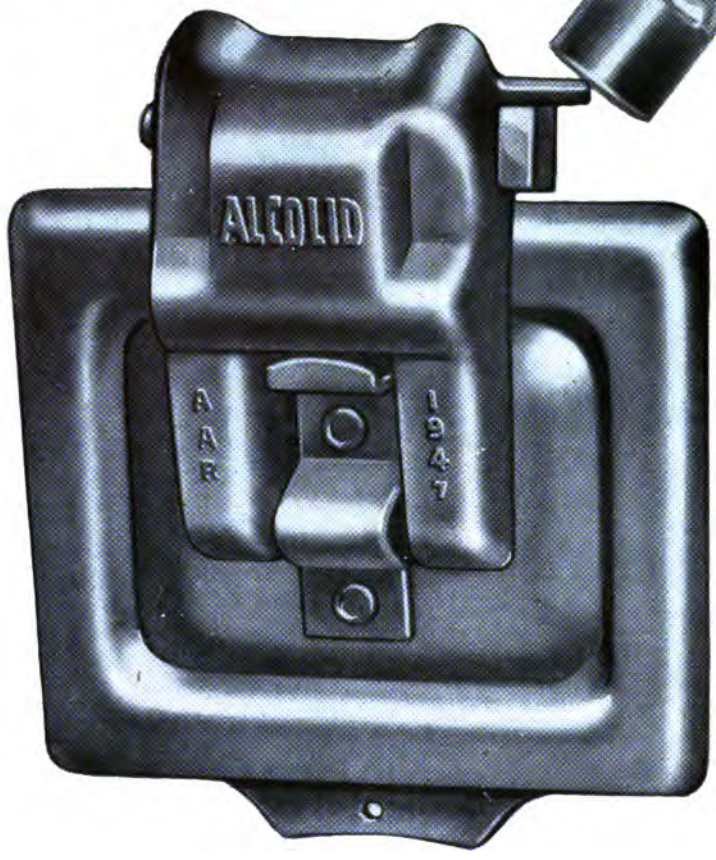




TROLLEY COACH AND STREETCAR LINE MATERIAL AND CAR EQUIPMENT

Canadian Ohio Brass COMPANY, LTD. Niagara Falls, Canada

NO PIN ROTATION



The square-headed retaining pin is held securely in place by a flanged hood ear bent over the pin head as an anvil.

NO EYE ELONGATION

ALCOLID®

TRADE MARK REGISTERED

THE LIFETIME JOURNAL BOX LID

Manufactured in Canada under license from American Locomotive Co. Enquiries invited

NATIONAL STEEL CAR

HEAD OFFICE: HAMILTON, ONTARIO *Corporation Limited* SALES OFFICE: MONTREAL, QUEBEC

BUILDERS OF TRANSPORT FOR CANADA

AAR CERTIFICATE No. 1



THE *Symington** COMPOSITE ARTICULATED JOURNAL BOX LID

TESTED UNDER AAR SUPERVISION AND GRANTED AAR APPROVAL CERTIFICATE NO. 1

LIGHT WEIGHT • STURDY



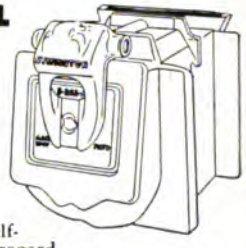
LID . . . reinforced pressing, flanged on all four sides.



HOUSING . . . cast malleable iron with hinge pin bearing surfaces of large area.

POSITIVE SEAL

CENTER PRESSURE



Provides constant, equal pressure—on all four sides of the lid. Ball and socket joint between lid and housing makes lid self-adjusting. Full articulation regardless of hinge lug wear and tight joint are ensured.

EASY TO INSTALL

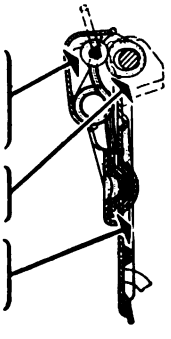
1. Place in horizontal position over hinge lug.
2. Insert pin.
3. Partially close lid until spring tension is greatest. Then remove hairpin and close lid all the way—lid is installed! Simple. Easy. Quick.



Manufactured in Canada

REDUCED WEAR

1. **HINGE LUG WEAR** *reduced* by equipping the torsion spring with a roller of adequate diameter and width which bears against the hinge lug.
2. **HOUSING WEAR** *decreased* by hinge pin bearing surfaces of large area.
3. **LID WEAR** *minimized* by light weight construction and adequate center pressure to insure tight fit and prevent vibration.



ADANAC SUPPLIES LIMITED

974 ST. ANTOINE STREET -- MONTREAL

COUNT ON THESE.... 8 PLANTS FOR FAST DELIVERIES

ST. BONIFACE
FORT WILLIAM
HAMILTON
MONTREAL
TORONTO
NEW GLASGOW
AMHERST
ST. THOMAS

No other type of freight wheel offers the service facilities of Chilled Tread Car Wheels. These eight plants strategically situated to serve rail traffic mean immediate delivery thus reducing inventory requirements. This is only one of the advantages of using Chilled Tread Wheels. There are many others —

5 METALLURGICAL POINTS IN FAVOUR OF CHILLED CAR WHEELS

- 1. Rotundity tests to .025 inch. (Standard A.A.R. is .031".)
- 2. Chill test blocks taken regularly during pouring operations.
- 3. Pyrometric check for processing temperatures and chemical analysis for each heat.
- 4. Finished wheel subjected to regular Drop-tests. (A.A.R. specifications.)
- 5. Thermal tests. (A.A.R. specifications.)

All these things add up to greater safety, strength and durability.



Chilled Tread Wheels are Manufactured in Canada by

CANADA IRON FOUNDRIES LIMITED
CANADIAN CAR & FOUNDRY CO. LIMITED
DOMINION WHEEL & FOUNDRIES LIMITED

GENERAL MOTORS DIESEL LIMITED



Canada's First Plant for the Exclusive Manufacture of Diesel Locomotives Opens in London



A short 10 months ago, ground for the new plant was first broken by (left to right) Homer Hardy, then Reeve of London Township; E. V. Rippingille, Jr., President of General Motors Diesel Limited; and Ray A. Dennis, then Mayor of London.

The building of this *exclusive* Diesel Locomotive plant was carried out in the record time of 310 days. As each bay of the plant was completed, work on the first locomotives was carried on. After the official plant opening, August 11th, visitors had a first hand opportunity to see these locomotives being built; a 1500 H.P. FP-7 Freight locomotive for the Canadian Pacific Railway, and a 1500 H.P. GP-7 Road Switching locomotive for the Toronto, Hamilton and Buffalo Railway. The establishment of this General Motors Diesel Limited plant at London means employment for more than *1,000 Canadians*, and General Motors large purchases of equipment and supplies extend directly to a host of Canadian companies.

General Offices and Plant, London, Ont.

***Sales Headquarters:* International Aviation Bldg., Montreal.**



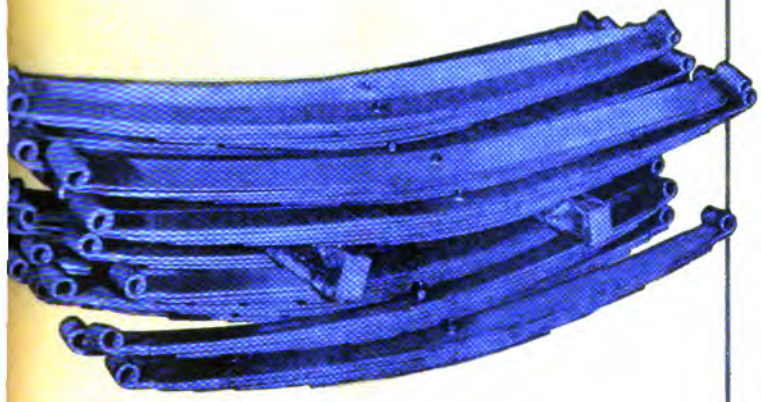
GENERAL MOTORS LOCOMOTIVES

GENERAL MOTORS LOCOMOTIVES

are constructed from one hundred per cent General Motors design and are built under a SINGLE responsibility. All major components of the locomotive are serviced completely by ONE organization.

There's a better material available for SPRINGS





EMBLEM OF INCO SERVICE
TRADE MARK

IE INTERNATIONAL NICKEL COMPANY OF CANADA, LIMITED
25 KING ST. WEST, TORONTO

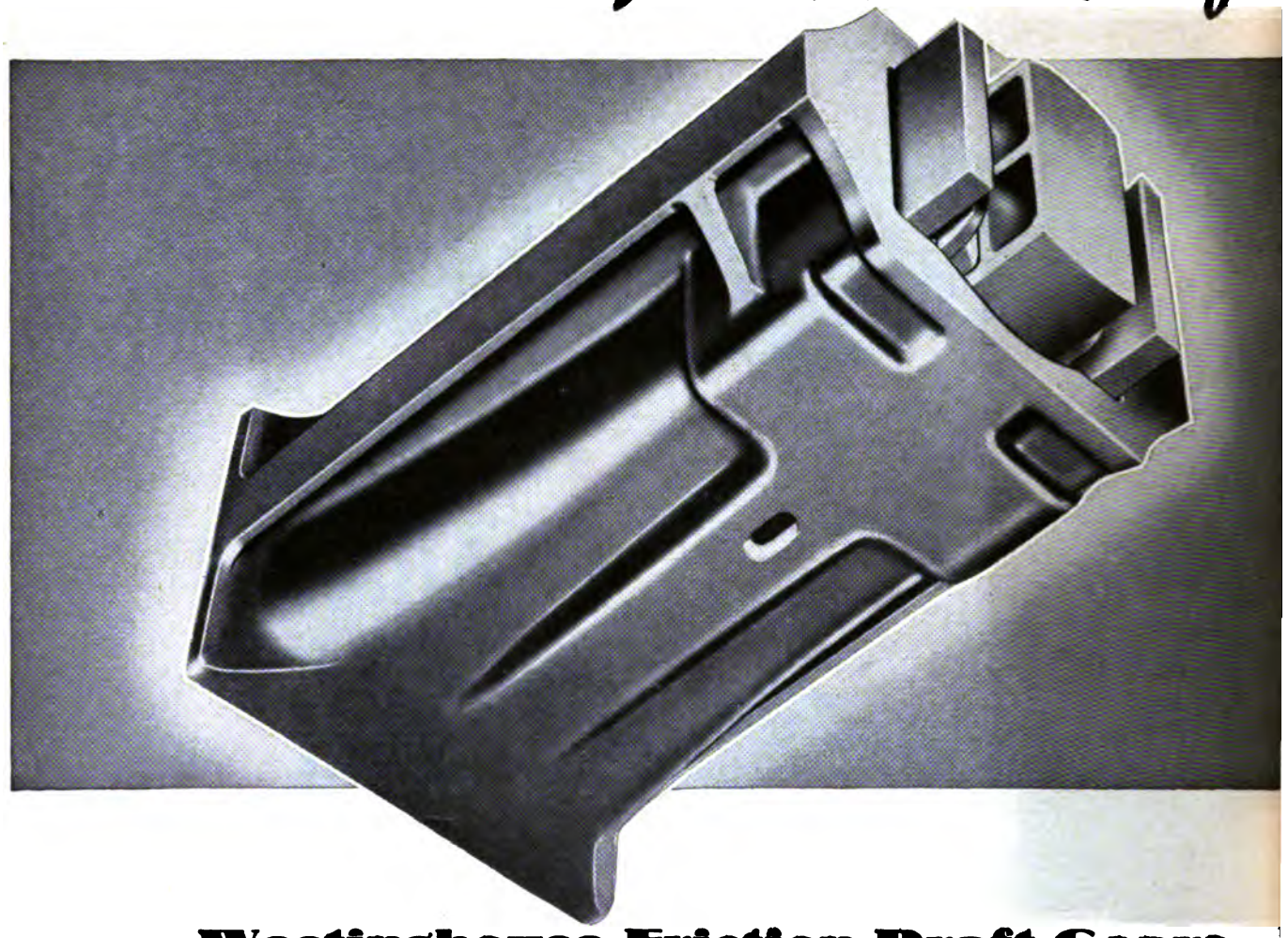
"8660" Nickel Alloy Steel

Both leaf type and hot coiled springs for heavy duty work are better when made from "8660" nickel-chromium-molybdenum alloy steel. High elastic properties, resistance to permanent set, resistance to shock at both normal and sub-zero temperatures, through hardening characteristics, good fatigue strength, less susceptibility to decarburization, and greater cleanliness are some of the plus qualities of "8660". For springs to be used for railway car suspension, and similar heavy duty applications, it will pay you to investigate Type "8660" Nickel Alloy Steel. Ask for a copy of "Nickel Alloys in Railway Equipment".

Complete Protection

...From Coupler to Coupler

...From Rail to Roof!



Westinghouse Friction Draft Gears

Absorb and Dissipate Shocks at the Couplers

Modern Friction Draft Gears are, and continue to be, an evolution of design and experience resulting in developments which have more than kept pace with the unparalleled progress of Railroading.

Over 98% of the cars in freight carrying service are A.A.R. construction, and over 96% have Friction Draft Gears.

Manufactured in Canada

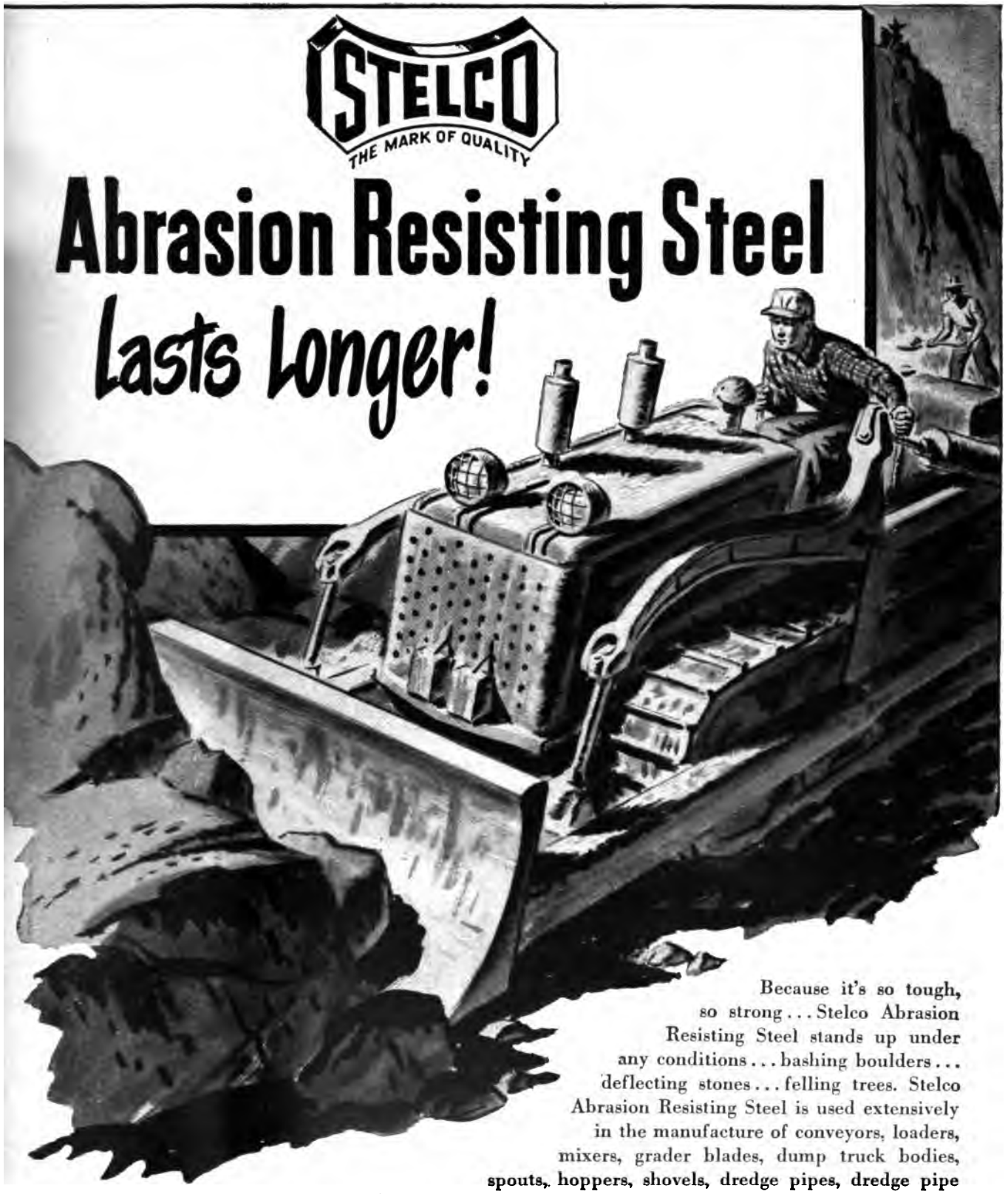
Cardwell Westinghouse Co., Chicago

Canadian Cardwell Co., Ltd., Montreal

ROYAL BANK BLDG. MONTREAL, QUEBEC

STELCO
THE MARK OF QUALITY

Abrasion Resisting Steel lasts longer!



Because it's so tough, so strong . . . Stelco Abrasion Resisting Steel stands up under any conditions . . . bashing boulders . . . deflecting stones . . . felling trees. Stelco Abrasion Resisting Steel is used extensively in the manufacture of conveyors, loaders, mixers, grader blades, dump truck bodies, spouts, hoppers, shovels, dredge pipes, dredge pipe liners, sand, gravel, grain, coal and coke chutes, etc. etc. It is possible that the extra long-wearing quality of Stelco Abrasion Resisting Steel will be of benefit to you. Consult our engineers today . . . it might save you money tomorrow.

4830

THE STEEL COMPANY OF CANADA, LIMITED

EXECUTIVE OFFICES
HAMILTON MONTREAL

STELCO

SALES OFFICES
HALIFAX SAINT JOHN MONTREAL
OTTAWA TORONTO HAMILTON LONDON

"I KNOW THE HIGH-QUALITY THAT GOES INTO DOFASCO STEEL CASTINGS"



"Believe me, it takes more than just metal to make a steel casting. We've been making castings at Dofasco for more than 30 years — that's why we lead the field."

Whatever your casting problem—large or small—bring it to Dofasco. If it's a casting, we can make it.

Dofasco's double refined "quality controlled" castings are helping in the expansion of shipping, railroads, mining, and hydro-electric developments all over Canada.

We can help you too. Why not have our representative call on you? Or write for descriptive folder "The Key to Your Problems."

DOMINION FOUNDRIES & STEEL LIMITED

HAMILTON CANADA



Dofasco DOUBLE REFINED STEEL CASTINGS

he World's Largest Fabricator of Railway Car Specialties

it was first introduced...

Why was the new, twist-resistant DIAGONAL PANEL Roof immediately acceptable?



In every field of endeavor there is a

Standard

by which others are judged

Standard

Canadian Pacific OFFERS



Meals to Remember

The Dining Car is a popular car on Canadian Pacific trains. A variety of menus to choose from . . . good food at a reasonable price, served with traditional Canadian Pacific courtesy. Whether in economical coach or tourist car, or in a standard sleeper . . . "First Call for Dinner" is a reminder that Canadian Pacific Dining Cars add a touch of extra good living to good travelling.

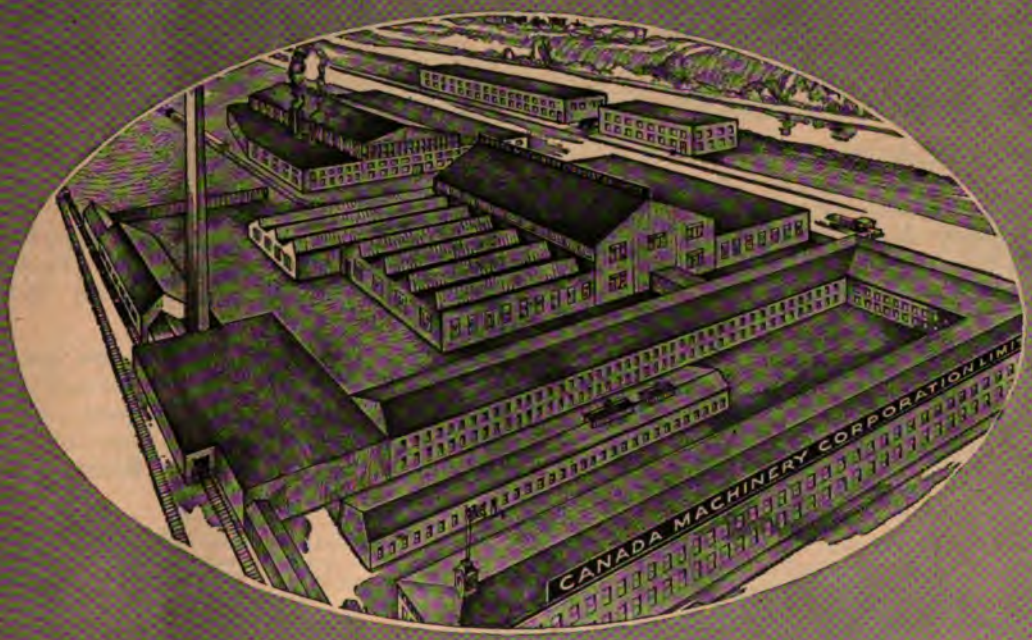
Travel by train—safe, dependable, economical —ride relaxed, arrive refreshed.

Complete information from any Canadian Pacific agent.

Canadian Pacific

C.M.C

SUSTAINED PROFITS WITH C.M.C. REBUILDING SERVICE



WE HAVE COMPLETE FACILITIES AVAILABLE FOR REHABILITATING YOUR PLANT EQUIPMENT

CANADA MACHINERY CORPORATION LIMITED

HEAD OFFICE AND WORKS - - GALT, ONTARIO, CANADA

11 Beautiful New Blue Top Units ...all INTERNATIONALS



BLUE TOP BREWING CO. LIMITED of Kitchener, Ontario, needed new trucks. Rugged, rapid, reliable trucks. Trucks which combined heavy-duty stamina with easy maneuverability, driver comfort and safety. Trucks economical to operate and maintain. Trucks which would *look* as well as *play* the part on long, inter-city runs.

THEY CHOSE INTERNATIONALS—a fleet of eleven L-190's—each with a gross vehicle weight rating of 21,000 pounds. More are on the way! You'll see them all over Ontario —big, beautiful blue and white examples of modern truck transportation.

Today, as for the past eighteen straight years, *heavy-duty engineering* makes Internationals the leading choice of Canada's most cost-conscious, profit-minded truck users.

Now every new International Truck—from the smallest to the largest—is *heavy-duty engineered* to save you money. Now every new International Truck features the Comfo-Vision Cab, "roomiest cab on the road" . . . headquarters for new comfort and ease of handling.

No matter what size truck you use, there's a *heavy-duty engineered* International Truck that's right and ready for you. Find out all about that truck from your nearest International Truck Dealer or Branch, *soon*.

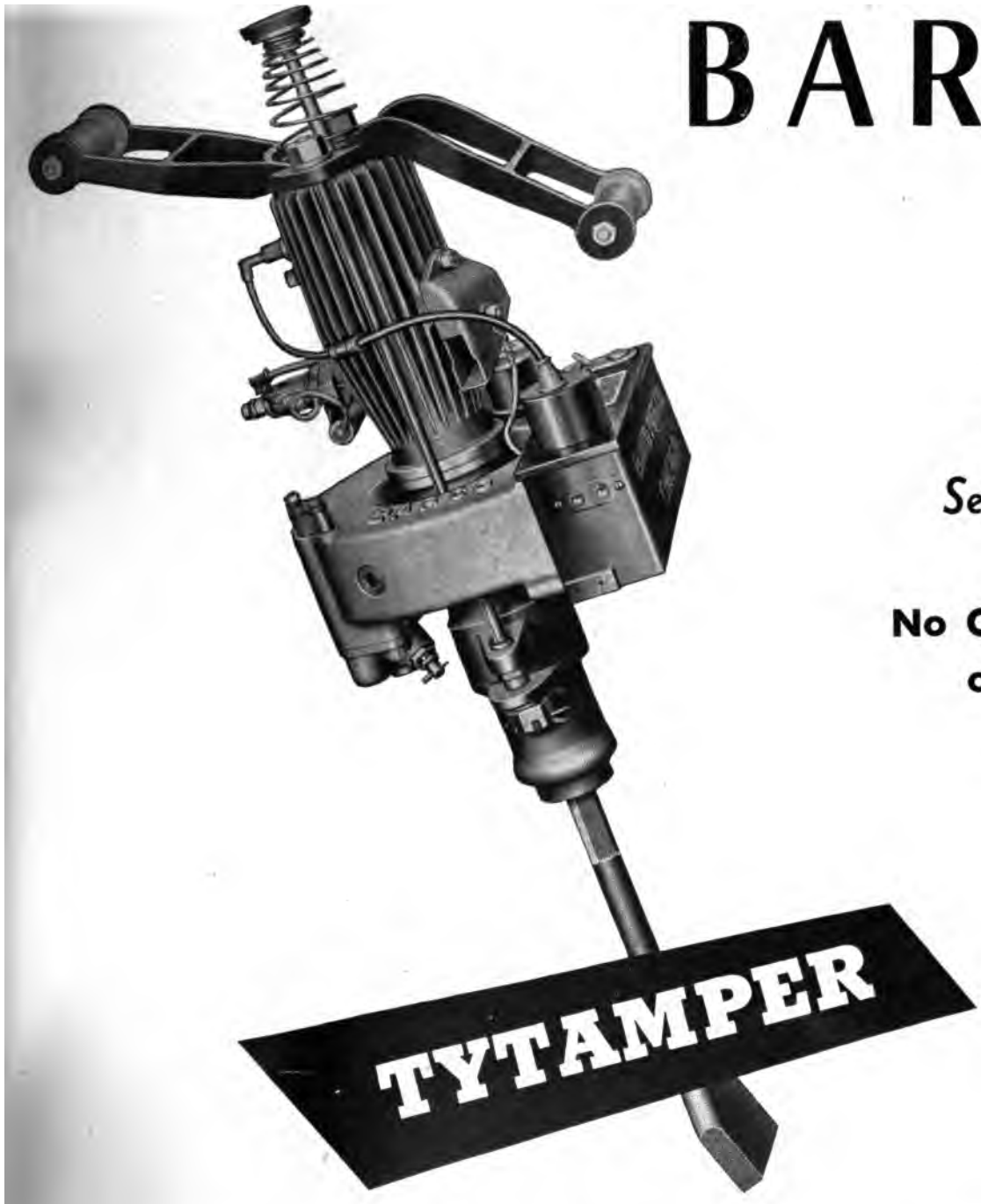
International Trucks are made in Canada at International Harvester's new Chatham Works, Chatham, Ontario.



INTERNATIONAL TRUCKS

INTERNATIONAL HARVESTER COMPANY OF CANADA LIMITED, HAMILTON, ONTARIO

THE BARCO



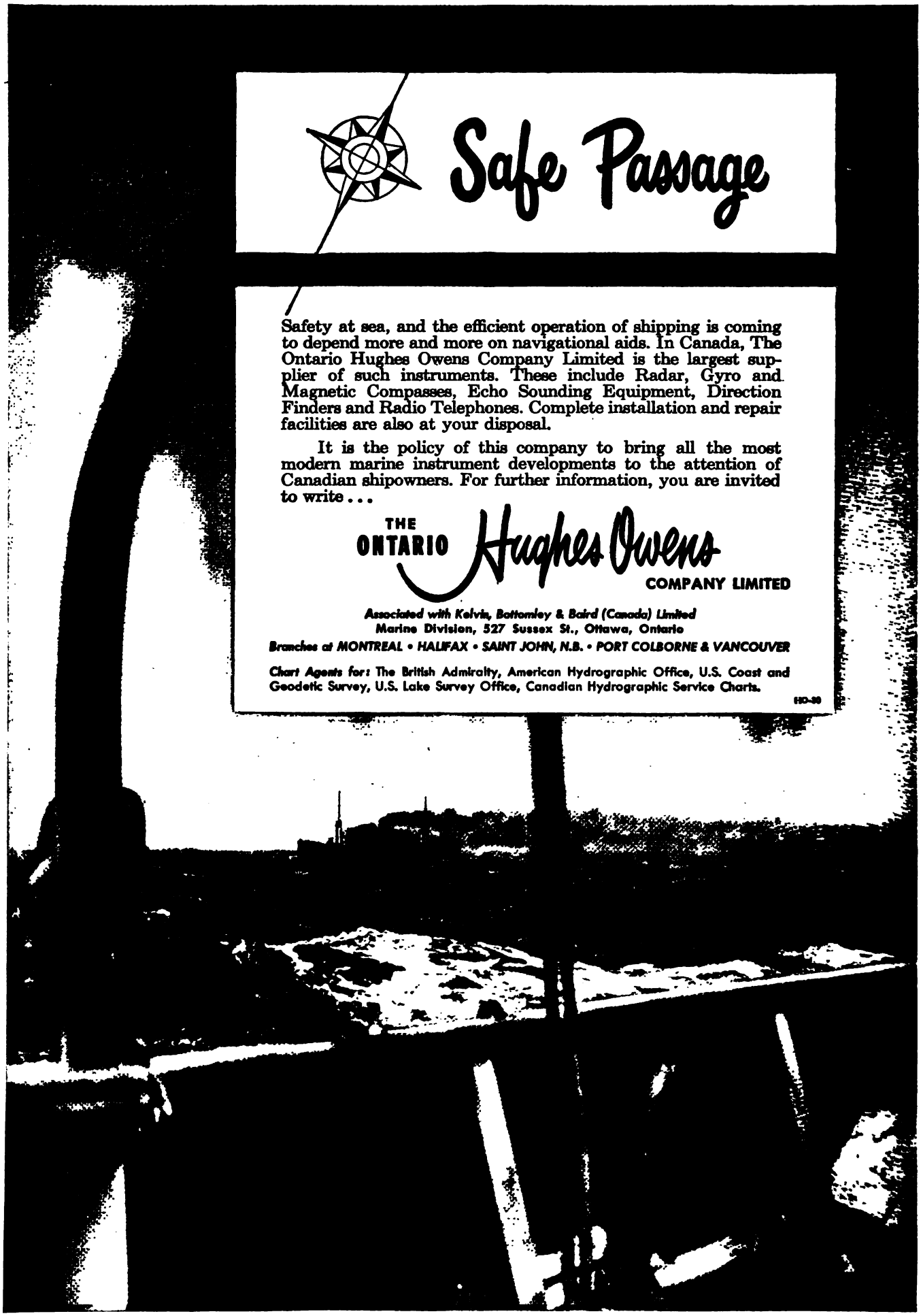
Completely Self-Contained

No Cables, Hose or Auxiliary Equipment Needed

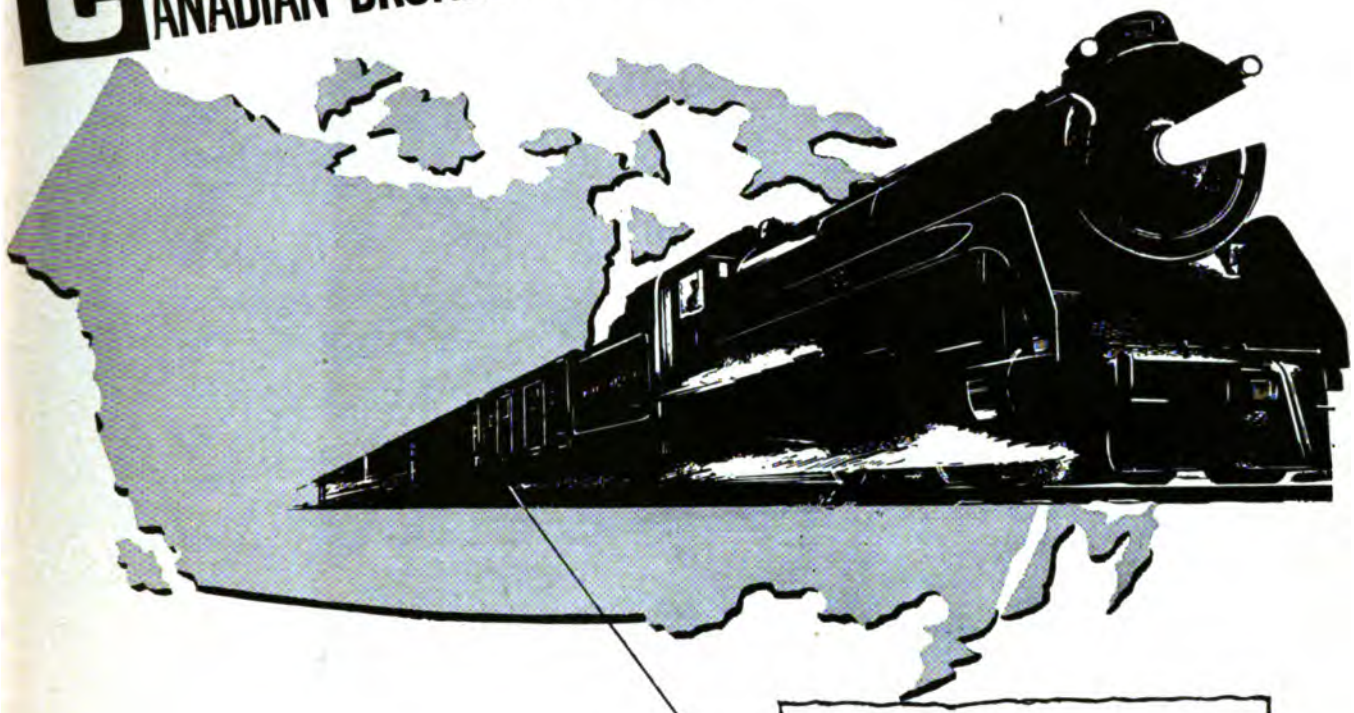
Canadian Representative for BARCO MANUFACTURING CO.

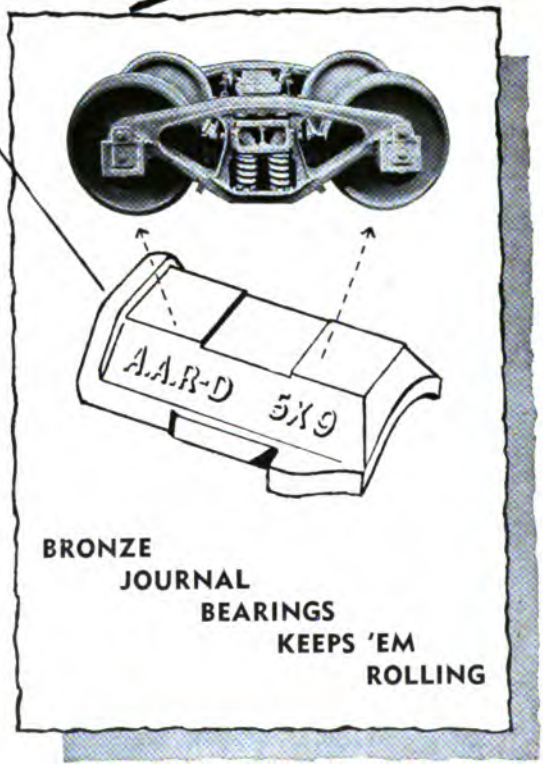
THE HOLDEN CO. LIMITED

MONCTON TORONTO MONTREAL, WINNIPEG VANCOUVER


Safe Passage
Safety at sea, and the efficient operation of shipping is coming to depend more and more on navigational aids. In Canada, The Ontario Hughes Owens Company Limited is the largest supplier of such instruments. These include Radar, Gyro and Magnetic Compasses, Echo Sounding Equipment, Direction Finders and Radio Telephones. Complete installation and repair facilities are also at your disposal.
It is the policy of this company to bring all the most modern marine instrument developments to the attention of Canadian shipowners. For further information, you are invited to write . . .
THE ONTARIO Hughes Owens COMPANY LIMITED
Associated with Kelvin, Bottomley & Baird (Canada) Limited
Marine Division, 527 Sussex St., Ottawa, Ontario
Branches at MONTREAL • HALIFAX • SAINT JOHN, N.B. • PORT COLBORNE & VANCOUVER
Chart Agents for: The British Admiralty, American Hydrographic Office, U.S. Coast and Geodetic Survey, U.S. Lake Survey Office, Canadian Hydrographic Service Charts.
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CANADIAN BRONZE SOLID TYPE JOURNAL BEARINGS





BRONZE
JOURNAL
BEARINGS
KEEPS 'EM
ROLLING

MINIMUM FRICTION

Glides on a single film of oil.

MINIMUM COST

Saves over 25% on initial car cost—96% on bearing replacements.

Manufacturers of Bronze Journal Bearings and Castings for over half a century

CANADIAN BRONZE CO. LTD.

Wholly owned Subsidiaries:

Montreal Bronze, Limited
Montreal, Quebec

St. Thomas Bronze Company, Ltd.
St. Thomas, Ont.

Northwestern Brass, Limited
Winnipeg, Man., and Calgary, Alta.

Winnipeg Brass Limited
Winnipeg, Man.



Pattern of Progress

From the beginning of history, the network of a nation's highways has formed one of the basic patterns of a nation's progress—and today's highways are making a greater contribution than ever to continued progress because of the development of the modern motor coach.

Now comfortable, convenient and low-cost transportation has been made available for everyone. Modern bus lines form the regular—and often the only—link between countless communities, and have made possible the development of many out-lying areas.

In the provinces of Quebec and Ontario, the 543 modern motor coaches of the Provincial Transport Company and Colonial Coach Lines are serving routes which total over 3,789 miles over which travelled 19,429,015 passengers in addition to urban transportation services which carried 11,783,516 passengers during 1949 in Kingston, Ont. and Sherbrooke, Que. With skilled drivers, regular schedules, frequent daily trips, they are continually carrying thousands of passengers to work, to school or to play. They are proving, too, an important factor in the development of Canada's vital tourist industry.

Steadily expanding to meet the increasing needs of modern development, this great highway fleet is providing an essential travel service which combines comfort and convenience with economy.





NO JOB IS TOO BIG - OR TOO SMALL for CANADIAN SHIPBUILDING & ENGINEERING



The shipyard at Collingwood where the "HOCHELAGA" was built and launched on her maiden voyage last fall.



The "HOCHELAGA", against the Detroit skyline, on her first cargo-carrying voyage.

A small local fishing smack needing repair—a handsome contract from a land across the sea for the construction of a multi-ton cargo vessel . . . both get skilled attention at any of Canadian Shipbuilding and Engineering's four Ontario shipyards. Over a hundred years' experience goes into every refitting, conversion, overhauling or replacement job.

The two largest ships ever built in the Dominion —"HOCHELAGA" and "COVERDALE"—were launched from the yards at Collingwood and Midland, respectively. Early next year, Port Arthur and Collingwood will each complete an oil tanker with a cubic capacity unsurpassed by any other Canadian oil carrier.

The Company represents four of the five Canadian shipbuilding and repair centres controlled by Canada Steamship Lines. Their record, for the past year alone, of vessels designed and built, along with the total tonnage of ships drydocked and repaired, make an impressive total.

All enquiries promptly acknowledged and information supplied on request.



CANADIAN SHIPBUILDING AND ENGINEERING COMPANY LIMITED

COLLINGWOOD • KINGSTON • PORT ARTHUR • MIDLAND

Shipbuilding subsidiary of

CANADA STEAMSHIP LINES LIMITED

759 VICTORIA SQUARE, MONTREAL P.Q.

ATLAS PARAMOUNT PACKINGS





The distinctive design of these packings insures a completely automatic packing.

Manufactured from six compositions, each for a specific service.

Furnished in ring form only, in all rod and stuffing box sizes.

CALL "ATLAS" FOR ALL
YOUR PACKING REQUIREMENTS.



ATLAS ASBESTOS
COMPANY LIMITED
A Member of the Turner & Newall Organization — Complete Asbestos Service
MONTREAL — TORONTO — WINNIPEG — VANCOUVER



Extensive and exhaustive trials have proven the value of FM 2-Way Radiotelephone Systems to some of North America's leading railroads. Now widely used in yard operations and end to end communications, FM 2-Way Radiotelephone Systems provide instant contact between yard-master and switch crews, engineer and caboose. The result? FM 2-Way Radiotelephone increases safety, speeds freight and passenger traffic, and provides reliable communication in emergencies.

Reliability, Simplicity and Economy are the principal features of Rogers Majestic Railroad Communications Systems. This means day in, day out dependability; extreme ease of operation; plus low initial cost and maintenance.

A Rogers Majestic Railroad Communications System may be able to save money and improve service for you. Our engineers will be pleased to talk over a suitable set-up with you *at no obligation of course.* Simply contact our nearest Sales Engineering Office.

COMMUNICATIONS DIVISION

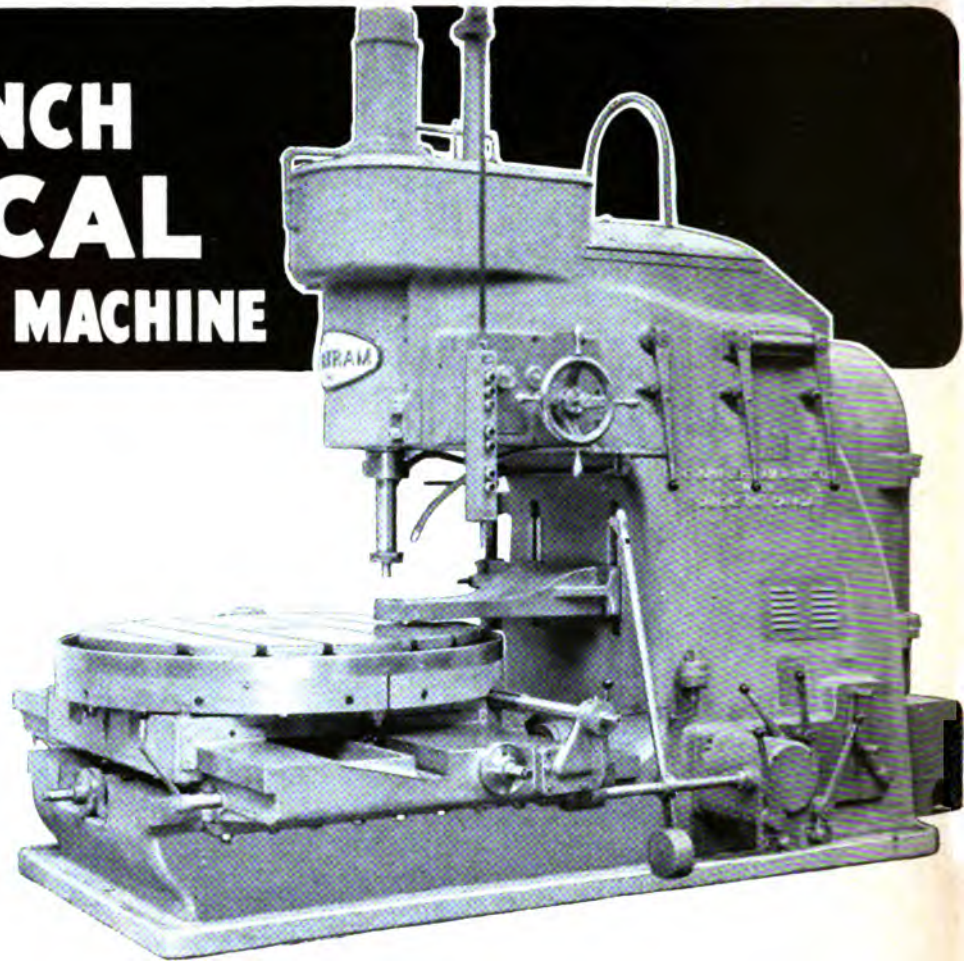
ROGERS MAJESTIC ELECTRONICS

Sales Engineering Offices:

HALIFAX MONTREAL WINNIPEG VANCOUVER

LIMITED
TORONTO

64 INCH VERTICAL ROD MILLING MACHINE



Designed for Profiling the ends of Locomotive Rods or similar Heavy Milling Work

Accuracy, Convenience of Operation and Low Cost Maintenance are assured users of this Bertram Rod Milling Machine.

The Pendant Switch and Duplex Control Levers enable an operator to utilize to the full its productive capacity.

Outstanding features include ONE-PIECE PYRAMID FRAME — DUAL MOTOR DRIVE — ANTI-FRICTION MOUNTED SPINDLE — BUILT-IN SPEED BOX — ANTI-FRICTION MOUNTED MULTIPLE SPLINED SHAFTS — STEEL TOP CIRCULAR TABLE — HINGED ARBOR SUPPORT — LARGE MICROMETER DIALS and many other noteworthy refinements.

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Canadian Transportation

C.P.R. Experiences in the Manitoba Flood

The Canadian Pacific Prairie Region officials and staff had a busy time of it in April and May, when the land in the Red River Valley, south of Winnipeg, was under water, and many Winnipeg suburbs were flooded. In addition to surmounting its own difficulties, the railway contributed importantly to the public welfare by moving out evacuees, rescuing livestock, maintaining communications and giving quick movement to flood-fighting and rehabilitation materials.

The disastrous Red River Flood in April and May, in which the country from the Canada-U.S. border to Canada's fourth city, Winnipeg, and the city itself, suffered severely, has now passed into history, and history also records that throughout the military-government plans to save, evacuate and rehabilitate country and city, the Canadian Pacific and its employees made an important contribution.

The expert teamwork of C.P.R. men and women made their organization live up to its highest responsibility as a national utility. And they did it often after broken rest, or no rest, from taking their place as citizens on the dikes, or at the canteens, wherever the battle was waged.

This Canadian Pacific story of flood month is one which is bound to offend, by omission of some worthy effort (there were so many) in the nerve-wracking period when the whole city waited for the flood, like the roomer upstairs, to "drop the other shoe."

Going back over events from the week of April 27 when the line was first menaced at Emerson on the Winnipeg-Minneapolis run, here are some of the things the C.P.R. did:—

Moved out of Winnipeg 26,000 evacuees by rail and 175 by air from Monday, May 8, to midnight on Sunday, May 21;

Accommodated in its Royal Alexandra Hotel flood victims to a peak of 300 daily;

Handled 5,000 telegrams in one day, close to five times a normal day's business, in keeping communications clear;

"Highballed" all flood-fighting material, (hip boots by express, Baillie bridges by freight), and kept up normal delivery to all but the flooded-out;

Shared in "Operation Cow" with 12 relief trains to McTavish, Domain and La Salle, contributing to the bright record of livestock rescue.

Through all this it had its own fight with water. In the city a battery of 56 pumps was set up to protect the nerve centres of the Royal Alexandra, the depot power house, the shops and express building. At the Portage and Main heart of the communications department, pumps poured up to 25,000 gallons of water an hour from the basement out onto the recognized "four corners" of Winnipeg.

In the country, 20 miles of Canadian Pacific track were lost at the worst period. Nineteen miles of this was on the La Riviere subdivision from La Salle to past Morris, with 10 miles of it under the waters of the Red River-created Lake Morris up to



Left, a Locomotive Being Used as a Temporary Steam Plant to Supply Steam to Laundry. Right, People Waiting to Board Train Out of Winnipeg.

a depth of 20 feet. The remaining mile of track knocked out was at Emerson. For a time the Carman Subdivision from Elm Creek to Plum Coulee was under repair for soft track which developed when heavy traffic was routed that way to make up for the loss of connection at Morris.

It was on this track that the company efforts in "Rainbow," the rehabilitation plan, were concentrated. Emerson was first, for the terrific fight which had seen C.P.R. lines kept open there well after all other connections failed paid off by making the "dump" easier to work on. After the first post-flood train into Emerson arrived, the connection was kept busy in the big job of reconstruction. Work to recover the submerged tracks on the La Riviere Subdivision started from Rosenfeld on the south and La Salle on the north and it was in June that the gap was closed.

There has been no estimate of what the Red River Flood has cost the C.P.R. This will have to include not only the right-of-way washed out but the extra expense entailed in keeping the property in shape to give the emergent service required.

The railways were to be the main instrument of the mass evacuation called for if the flood waters reached a level of 32.5 feet above datum. Under this plan all forms of transport —rail, bus, air and private automobile — was expected to move 40,000 persons per day to safety, this of course to be a controlled evacuation.



Building Breakwaters to Protect Track on Emerson Subdivision.

Canadian Pacific planned for its part in this eventuality at daily meetings in the office of William Manson, then Vice President of the Prairie region, from May 9 to 15 inclusive. All senior officers were there to work out policy with smaller groups handling details. Henry Chester, Inspector of Transportation, worked with army, provincial and city experts in wrapping up the way evacuation would be done.

The daily meeting told the story of how the battle was going on one level. For instance:

A. B. (Sandy) Burpee, Superintendent of Transportation, provided almost a station-by-station report on the progress to Winnipeg of passenger equipment ordered from the East and the Pacific Coast, as well as from the rest of the Prairie Region. From all sources there was at one time 170 extra day coaches and 60 additional sleepers to meet the demands of Flood Control Headquarters. Aside from this it was a happy day for Transportation when connections with Minneapolis were made on the perishables run via North Portal, Moose Jaw and Winnipeg.

That great backlog of passenger equipment had to be got ready to move, and reports of E. G. Bowie, Superintendent of Motive Power, and W. F. Tully, General Superintendent of the Manitoba District, that so many cars were watered, stored and ready for the hooking on of engines, was a feature. Sterilizing of the water tanks alone was a mammoth job. Even the marshalling of that many trains was no simple task, and yardmen under W. M. Russell, Superintendent of Terminals, were heard more than once to opine that the yard was getting to "fit a little close under the arms."

T. E. Price, Engineer for Maintenance of Way in the West, was a daily attendant, as was T. W. Creighton, District Engineer at Winnipeg, whose own home in Elm Park was one of the first hit and who had to evacuate his wife and three youngsters early in the fight to Dauphin. He fought the Fraser as Assistant District Engineer at Vancouver in 1948. This time the railway had responsibility not only for its own main line but for its ancilliaries and for city property as well. One of the chores was to keep Main street Subway in Winnipeg open for vehicular traffic. If that was done the Royal Alexandra was safe and the power house would keep functioning. It was right around this area that many of the 56 pumps were concentrated.



Left, Workmen Sandbagging the Canadian Pacific Express Co. Office in Winnipeg. Right, Water Being Pumped from the Royal Alexandra Hotel by Three of the 56 Pumps in Service.

Personally acquainted with each of those pumps is Fred Drinkwater, Bridge and Building Master for the terminals. In an average 20-hour day he walked miles and with him most of the time was F. A. Felstead, Division Engineer. On over-all watch was C. K. Holden, commissioned "O.C. Pumps and Bridges" for the western Engineering setup by the chief engineer.

Not the least eagerly awaited intelligence of the sessions in the Vice President's office was E.C.P. Cushing's report on how his purchasing department had been able to do on lining up precious pipe hose.

The lastest word on the "cabinet" decisions of Flood Control Headquarters was passed on by N. R. DesBrisay, Assistant Passenger Traffic Manager, who was liason with planning groups and whose personal experience in the Halifax Explosion of the First War gave his counsel authority on rehabilitation measures. A. J. Mahon, General Passenger Agent, was his alternate at the sessions for the traffic organization which tied in at so many places in the plans.

Figures show, for instance, that in one day, May 13, there were 22 extra sleeping cars put on transcontinental trains east and west at Winnipeg. That was one of the days "Knobby" Clarke's reservations crew wound up with their eyes crossed. Watching the board, filling "boats" and getting women and children on their way for that period were Mary Gould, Helen Cranston, Catherine McDonald, Viola Magee, Vilda Peters, Grant Perry, Lyle Perry and Harold Trump.

The "travellers" and other outside men came in—Ernie Player, from Regina, "Buzz" Holt from Fort William, Lyle Martin from Calgary— and Wally Fridfinnson's flooded-out general agent's office at Portage and Main moved in with Tom Colton in the depot ticket office and helping out Bob Ritchie and Jack Stubbs in the terminal job.

A tower of strength in all deliberations was J. L. Sugden, Manager of sleepers and diners, who delayed his departure to his new post in Montreal until the danger was past. The distilled experience of four years overseas as a service corps major in the first war and a leader in the mass movements of the late conflict in his position with the company is what he offered. Backing him up were his new General Superintendent for the east, S. T. McBain, until he left for Toronto, and the new "general" for the west, T. P. James. It was Mr. Sugden who first talked into the records kept by H. A. Greeniaus the necessity for having a standby water supply in tank cars should the city supply be fouled, with trainloads of people to move.

On the line, sleeping car people had their own gauge of the movement. Albert Caron, of Montreal, a sleeping car conductor, recalls that on Train 8 out of Winnipeg on May 9 there were 17 local stops between North Bay and Montreal—on this proud transcontinental which just nods at some of these places. All sleepers were full that trip. One standard car had 10 children; the tourist ahead had 12 youngsters. The refrigerator in the Cape car at the rear end was really loaded with baby bottles that night.

Or take Inspector W. S. Jones' story of Deer Lodge Hospital soldier evacuees making "a day out" on one of the four such movements handled to Regina, Saskatoon, Calgary or Fort William. These wounded veterans were called stretcher patients, and were, and extra cooks and waiters were taken on to give them tray service. But they would have none of it. This was an occasion, and, with the permission of their medical officers, all but the worst cases made their way to the diner (it isn't reported but an official slow order seems likely at this time), to sit down and do justice to what was offered. Six poached eggs for one patient's breakfast and pretty general requests for "seconds" on a roast turkey dinner are among the records from the satisfied customers. And all of them insisted on pie and ice cream for dessert. "We get pudding in the hospital and it's good," one of them said. "But this is a company meal."



Loading Cattle for Evacuation from La Salle, Man.

Hotel's point of view was passed on by T. E. Chester, Assistant General Manager of the department, with his deputies Hugh MacFarlane, Manager of the Royal Alexandra, and Frank Davey, chief clerk of the western department. In the first week the "Alex" lost its share of two big conventions—the national Canadian Legion and the western session of Rotary. The functions board at the hotel was bare of announcements throughout, with no entertainment food being served whatever. Close watch was kept on the station coffee shop to help it relieve the load on diners by feeding passengers there.

The Regina end of the hotel chain came into the relief picture when the Hotel Saskatchewan's Canadian Room was used to house James Richardson & Sons western headquarters, flooded out in Winnipeg and moved lock, stock and barrel to the Saskatchewan capital.

Flooded-out summer hotel personnel were grateful when they were sent off to Banff and Lake Louise three weeks in advance of their usual date of reporting, to get them out of Winnipeg. The hotel people protected themselves in case of a utilities failure by buying two coal ranges. That could be indicative of what had to go on all over in the way of "protection."

For instance, there was a three-way line of defence at the power plant in the hotel. Pumps first to keep the

water from the boilers. If that failed, steam locomotives had been hooked up by T. F. Donald, Assistant Superintendent of Motive Power, and Dave Beath, Master Mechanic, to run the generators. If that went, a line-up of gas-driven motors was ready.

Express had its General Manager, Sam McMahon, in Winnipeg from Toronto for part of the emergency. Gilbert Edwards, Chief Clerk to the General Superintendent, and Ken Newinger, General Agent, were the others who lined out each day the position of this important aid to flood fighting. Their urgent "packages" changed to ponderous pumps, generators, cable-laying carts for power lines, sandbags, and, as rehabilitation started up, disinfectant, with priority rating. There were some laughs. One patron took delivery of an express parcel at the office because his home was flooded out. It was a dress suit ordered from Montreal months ago. He wondered how it would go with hip boots. The clerk who served him had his own problem. He had been forced to leave a tank full of goldfish in his inundated basement "and they've got to have the water changed often."

Harry Arkle's freight organization was limited throughout only by the ability of customers to take delivery —depending on the degree that they were flooded. Their special traffic included Baillie bridges and amphibious vehicles for the army. One Sunday they opened the sheds to move out desperately needed cable on the week-end that the power battle was won. Fifty of their freight cars were loaded with vital parts of customers' plants in the flooded area, a service greatly appreciated. For the Freight Traffic Manager and his assistant, Jack Fullerton, one of the brighter days was when they got a report of the first delivery being made across the river to St. Boniface, which was cut off to all practical purposes until the battle of the bridges was won.

The men who had first word on the actual ordering of special trains were Frank Langford, Supervisor of Transportation for the Manitoba District, and Earl Marling, chief dispatcher of the Portage Division.

It was through this setup that the packing plants got the trains which carried their workers over to St. Boniface and brought them back in the afternoon. Another help in keeping the city supplied with fresh meat was the arrangement through the terminals of the spotting in Winnipeg daily of two "reefers" of meat, from which packers' trucks made delivery.

Assistant Chief Ben Bouzan called in men from the territory to bolster his uniformed police force at the depot, and watched like a hawk to remedy any tendency to panic on the part of bewildered evacuees by making sure that "head end" trains were so designated in train announcements, and it was explicitly stated there were diners in the consist, the thing mothers with small babies most wanted to hear. Constables worked a seven-day week and a normal day shift was seven to seven in the emergency.

Earl Tweedy's factual reports as general mail and baggage agent that as much business was done in a day as a normal week would bring told the whole tragic story of the evacuation when checked first-hand.

Baggagemaster C. A. Cox best tells that story. He and his staff of 34 (doubled for the emergency) handled 2,200 pieces of baggage at the peak instead of the usual daily three to four hundred. And what pitiful baggage!—Bed parts from washed-out bedrooms, clothes-baskets which held anything from clothing and food to bits of fine china, in all making four times the amount of excess baggage usually handled, went through the hands of Mr. Cox, William Branton, James Milne, E. A. Root, Alex. Setter, Charlie Stevens and Stephen Roy.

Solicitor H. A. V. Green, K.C., sat in on the committee which decided on the form of the company's appeal in the Manitoba Flood Relief Fund was to take within the limits prescribed. In his own office Eric Stuart, Assistant Solicitor, was one of those whose home was flooded to the second floor in the Wildwood development, and was still able to say that the piano which he couldn't get up to the second floor and possible safety was something he "didn't play anyway". Another assistant solicitor, Navy Officer F. S. Burbidge, was called back into uniform, as was Sub. Lt. Ed. Wilson, of the Vice President's office, one of whose tasks was to sail a DUKW past the flooded-out home from which he evacuated his mother when Ross Munro, top Canadian reporter, was touring the flood area.

An important report was the supplies roundup provided by General Storekeeper R. G. Bennett in the event of general evacuation being necessitated.

Canadian Pacific Air Lines had its own part in the emergency. Its runs to Northern Manitoba and Northwestern Ontario carried far more than the usual number of youngsters. Returning they were laden with pumps from the mining company, sandwiches for flood workers from Dauphin, and, on two charters, miner-reservists to work on the dikes in Winnipeg.

Through arrangements made by Superintendent W. J. Windrum and Harold Collie, of traffic, the air lines also gave a hand to one of the funds-raising moves by flying the special edition of The Winnipeg Tribune free to all points on its run. All proceeds from this picture paper went to flood relief. A flood flight on May 23 for company people gave the first overall picture of the damage done to many. It coincided with a visit to Winnipeg of Vaughan Perry, manager of all domestic operations.

Winnipeg Depot was on a rush basis through all the trouble. Take the Train Information phones. At the worst of the evacuation that board was a blaze of light, and the nine operators under Chief Clerk Alf. Walton forgot about the two 10-minute coffee breaks, the 20 minutes for lunch which is their routine on a normal eight-hour shift in this job, which is exacting enough.



Left, Track Washed Out on La Riviere Subdivision, One Mile South of La Salle, Man. Right, Pumping Water from the C.P.R. Building at the Portage-Main Intersection in Winnipeg.

This is a place where you cannot bring somebody in from another department, no matter how intelligent, and fit them in at once. It is exact information the patrons require—train times, consists. So they ate at the board—Freda Thorliefs, Mary Brown, Gus Siefert, Bill Thalman, Charlie Dawson, Pat Boyle, Eddie Page, Evelyn Hughes and Mary McIlroy. They couldn't tell you how many calls they answered. The normally dull midnight-to-eight o'clock shift told the tale of the times. It got a lot of calls at 1.00 a.m. or at 6.00 a.m.—obviously after a family council had decided to get out and asked for the information

knocked out but the storage batteries —weighing 500 pounds apiece, clumsy glass things loaded with powerful acid—had to be brought out of danger to the first floor. The elevator company sent over an expert and he "babied" the elevator cables so they didn't hit the encroaching water and made enough trips to get the batteries up. That one was a rough go.

You had only to go to the operating room presided over by Bert Mintie to see what improvisation at a time of emergency meant. Panels which normally were bare as a billiard ball had jacks by the skein. Overhead special lines pieced out the special circuits.

his son John, into going ahead of them as guides in a small boat with an outboard motor. The Wienses knew where the fences were which could snag the DUKW.

Normally the least glamorous of telegraph operations is Delivery under Jack Donaldson as general agent and with Karl Strindlund dispatching the boys. This time, though, they used canoes sometimes to get messages through. Clerks in the telegraph department, and other departments of the company, used their own cars to deliver messages, and just plain friends of the company, and in no way connected with it, hustled tele-



Trains Were Held in Readiness in the Event of a General Evacuation of Winnipeg.

after the council late at night, or, after sleeping on it, early in the morning.

The Governor-General used the terminal passenger agent's office to don the hip boots which were general in Winnipeg before going out over the dikes and to a press conference which gave heart to a bone-weary city. Gracie Fields, the great English comedienne, did a special flood fund broadcast on the spot in the rotunda where there was fun and frolic with the likes of Blue Bombers or Calgary Stampeders on happier occasions.

It was a stern introduction for P. G. McLean, new General Superintendent of Communications for the West, and for Doug. Macleod, Inspector. Mr. McLean was just in from Montreal, Mr. MacLeod from Vancouver. They, with Ernest Elsey, Superintendent for Manitoba, overcame as rough a combination of circumstances as their department has record of.

Communications headquarters is at Portage and Main in the C.P.R. Office Building, where Real Estage Agent T. E. Casey had his own pump patrol. The creeping water was murder to everything the communications people operate with. It knocked out their pneumatic tube system to the depot, the grain exchange and other places, and the water which knocked it out gushed down the tubes to complicate the pumping problem. High-frequency carrier cables also suffered. In the midst of it all (on May 5) a freak twister in Manitoba-Saskatchewan knocked down a lot of poles in the Souris area.

The elevator in the building was

All this was done by a staff which worked the clock around—a staff, hurt like the rest of the C.P.R. people. Take Frank Szumlanski, one of the installers. He lost everything in his home, checked into work right after the battle was lost and kept going there.

Wire Chief Don Fisher, whose home was in Norwood behind the massive Lyndake Dike which only became massive through a magnificent citizens' effort, was on a shift with Fred Anderson as senior and Reg Boyle as the other wire chief.

To keep lines open east and west, linemen had to string 200,000 feet of insulated wire over various city streets—with two vital points being to the east cable pole at Winnipeg Depot and the west cable pole at Rugby Junction.

In that freak storm at Souris there was a loss of high-frequency communication, and, for a time, the necessity to go down into Minneapolis, out to Seattle, up to Vancouver and then back east to get to Regina.

Lake Morris took its toll of the line serving the south country through La Riviere to Napinka, and it was only through getting an Army DUKW that this break could be repaired. Harry Howard, Superintendent of Traffic at Montreal now but not so long ago Inspector at Winnipeg, went on that cruise with Linemen R. McNaughton and S. M. Cheop. They got into Morris Hotel through the second-storey window. Thirty-foot telegraph poles were covered to within 10 feet of the top. They were only able to make the trip because they talked a McTavish farmer, P. T. Wiens, and

grams the same way at their own expense.

This was at the peak, when 5,000 telegrams a day were booming in from anxious parents, relatives and friends. Many of them were to the worst danger areas which were being evacuated. Except where the police would not let messengers go, they were taken to the addresses given on the wires. Another deal to locate people was a joint radio-newspaper listing of unclaimed wires which reduced the list by 500 a day. In a special office at Manitoba Telephone Buildings a special phone office was set up, with 10 direct lines, to phone out telegrams with former employees, wives of employees and other volunteers pitching in on this effort.

Turnabout being fair play, there was one time the Manitoba Telephone cable into communications headquarters failed and all phone service in the building was given over a C.P.R. cable.

Actually, first part of the Canadian Pacific organization to feel the flood was the Portage Division, with J. F. Fryer in charge as Superintendent and for which Ken Dunphy is Division Engineer. They were Trouble Twins together from the late-April shocks at Emerson, down through the washout at Morris, the softening of track between Elm Creek and Plum Coulee and the "crazy water" at La Salle, which came with a terrific head to balk their efforts at putting a fourth relief train into Domain. In the first fight at Emerson, Crawford Young, Assistant Superintendent of the division, ran the show as B. &. B.

Master Vic. Jardine's gang dumped gravel, sandbagged furiously and hammered together breakwaters in the freezing water to keep the last link with the States open by that particular route. They succeeded longer than anybody else and their perserverance paid off in the speed with which service was restored when the water went down.

Among the chief lieutenants there was Roadmaster Chris. Brynelson of Emerson. Past 65, he retired June 1. Chris. was in the fight every minute —and on more than a few days they had close to a 20-hour clock. Ski-hatted, rubber-coated, he was where things wanted doing—in the water knocking together timbers, on the roadbed clawing out frozen gravel—and a most vigorous 65.

Emerson was the first place to get an Evacuee Row—of boarding cars, colonist cars, stock cars, cook cars—for the poor people flooded out, and for their stock. Before it was all over, C.P.R. equipment had been set up, and left, at Dominion City, Domain and Osborne, as well as Emerson.

It was Emerson too that got a C.P.R. mail car to serve as a post office and where one part of the waiting room housed one of the town's three stores, its proprietor having made the deal to get in when he saw this was going to be worse than the 1948 flood.

Emerson also had Barnacle Bill, the Empress of Emerson or Paul Bunyan. Take your pick, and they all deal with Bridgeman Jim Boyd, of La Riviere. When the right-of-way at Emerson was finally abandoned when it was no longer a safe operation, the "dump" had to be patrolled and checked. Only way it could be done was by boat. Jim had a boat so he was ordered down. Had he gone by rail over the alternate route necessitated by the Morris washout and the Carman Subdivision softening, it would have meant 358 miles—La Riviere to Napinka to Winnipeg to Emerson. Instead he slipped his boat into the water at Sewel and steered the 35 miles over to Emerson by the names of the towns on the tops of the submerged elevators. Or so he said when they called him Barnacle Bill. The Empress of Emerson was the name his craft was given, though it never did rise to a red-and-white checkerboard house flag like its "sisters" the Empress of France/Canada/Scotland. The Paul Bunvan tag came when Jim had to be a river driver and round up wind-blown breakwater timbers.

Emerson was never without service, for a special train to Dominion City got passengers and goods into the town through a combination of C.P.R. and boat service. This Dominion City train backed up to a wharf built by the Red Cross and there unloaded daily with a launch service from there to Emerson. Since the only wve was at Emerson, this Dominion City train backed up the 56 miles from Winnipeg.

The "crazy water" at La Salle, which was the subject of a Mickey Potoroka picture and one of the more dramatic ones of all those taken in the disaster, reached its peak when a pile driver work train was at La Salle trying to make repairs so Domain people could be evacuated. That work train was ordered out at 3.00 a.m. They didn't give up until 7.00 p.m. and then only reluctantly.

As if Red River water wasn't enough, there was a flash flood at Gimli which went for the track there. Just how important the instant and thorough repair job done there was to prove came later in the worst evacuation scare when nine special "Beach" trains and all the regulars took up their loads of frightened Winnipeggers up to the lake resorts with an estimated 5,000 of them piling into Winnipeg Beach.

Among the evacuations which seemed particularly pathetic was that of the new Shriners' Sick Children Hospital. They went to Regina and their handling on a Canadian Pacific train brought warmest praise to the Vice-President from the potentate of the Winnipeg temple. It was so lined up at Regina that last of the young patients was tucked in a new hospital bed within an hour of arrival.

Of the evacuee movements added to regular trains none developed quite so fast as the Sunday night, May 14, that St. Boniface was ordered cleared of women with children. Three-quarters of an hour before departure it looked like an ordinary night for Train 51 to Edmonton via Saskatoon —last train out for the night.

Then they came in what amounted to about a street car load at a time—father carrying the baby up to the train and coming back down, mother with two, three or four children. Some of them had only shopping bags. It was a most depressing sight.

There are testimonials that people haven't got around to writing yet. There is the young working mother of three children, eldest age 13 and youngest age 5. She had to get them to friends at La Riviere, but the only way that could be done was by going down to Napinka, then to Lyleton and back east to La Riviere. It called for a night's stopover. She hadn't known so couldn't tell the children. The conductor took charge and fathered them along, saw that they got to a hotel and caught the train out the next day. That mother is pretty high on C.P.R. service.

Bill Douglas, Works Manager at Weston Shops, had his own indicator on the seriousness of the flood. The worst day of the week May 7-13 there were 35% of the shop forces away protecting their own homes or working on the dikes of their community. On May 18 when the city began to hope the "other shoe" had been "dropped", only 5% of Weston people were on flood work.

The situation has developed its own measuring stick for "good" news, as when Elmer Scott, Chief of Staff Records, could seriously say a friend had brought him good news—that the water had risen "only to the halfway mark on the front door". His furniture was on the second floor. If the rise checked there it was good news indeed.

At the Royal Alexandra, Ron Chatwin, Assistant Manager there then and now at the Palliser, found comfort—Job's kind perhaps—in the Challoner mural on Fort Douglas which pointed out that the great 1826 flood went to 16 feet over the usual high water mark and covered the whole of the then-Winnipeg from May 3 to June 15. Sharing the Chatwins' home at the time were the Stan Gibbonses, chief clerk to the vice-president, forced out of Norwood and their landscaping chewed up by a bulldozer, and necessarily so, to go into the nearby dike.

Freight Car Condition

Advice from the car service Division of the Association of American Railroads is that on June 1 there were 1,727,873 railway-owned freight cars on United States Class 1 railway lines, of which 127,894, or 7.4% of total, were awaiting or undergoing repairs, and that on Canadian railway lines there were 171,702 railway-owned freight cars, of which 10,164, or 5.9% of total, were awaiting or undergoing repairs.

In the following are specified the numbers of the various classes of railway-owned freight cars on U.S. Class 1 lines on June 1; the numbers of the various classes awaiting or undergoing repairs, and the percentage of such cars on lines.

Class of Cars	Total Cars on Lines	Cars for Repairs	% of Total
Box, plain and ventilated	652,117	40,295	6.2
Automobile	53,898	4,010	7.4
Gondola	288,965	23,611	8.2
Hopper, open	568,613	50,158	8.9
Hopper, covered	20,775	324	1.6
Stock	47,146	4,150	8.8
Flat	47,133	2,208	4.7
Refrigerator	18,873	1,511	8.0
Tank	7,774	378	4.9
All Freight cars	1,727,873	127,894	7.4

Privately Owned Cars in U.S.—On June 1 there were 211,237 privately-owned freight cars on U.S. Class 1 lines, of which 1,305, or 0.6% of total, were awaiting or undergoing repairs. Included were 103,288 privately-owned tank cars, of which 593, or 0.6%, were awaiting or undergoing repairs, and 100,925 privately-owned refrigerator cars, of which 705, or 0.7%, were awaiting or undergoing repairs.

Canadian Lines.— Following are particulars of railway-owned freight cars, numbers in bad order and percentages of totals, on individual Canadian lines, on June 1:—Algoma Central and Hudson Bay, 1,498 cars on lines, 211 in bad order, 14.1% of total; Canadian National, 91,659, 6,926, 7.6%; Canadian Pacific, 76,052, 2,953, 3.9%; Ontario Northland, 1,438, 38, 2.6%; Toronto, Hamilton and Buffalo, 1,055, 36, 3.4%.

Soo Line Promotions

At the recent annual meeting of the Minneapolis, St. Paul and Sault Ste. Marie Railroad Co. (Soo Line), all directors were re-elected. The directors then re-elected all officers, and created two new vice presidential offices to which R. L. Simpson, formerly General Manager, and W. W. Kremer, formerly General Traffic Manager, were elected. Mr. Simpson is now Vice President and General Manager, and Mr. Kremer is Vice President, Traffic.

Mr. Simpson, who had been General Manager since September 1, 1944, was born December 26, 1892, at Stratford, Ont., and began his railroading career as a shop apprentice in September, 1907, with the Grand Trunk Ry., now part of Canadian National Rys. In March, 1913, he accepted employment in engineering work with the Grand Trunk Pacific Ry., then under construction through Western Canada. Mr. Simpson first entered service with the Soo Line in March, 1916, as a mechanic, and has been in continuous service since July, 1917, at which time he was employed as Chief Draftsman in the Mechanical Department. In April, 1923, he was made Mechanical Engineer, and was promoted to Assistant to Vice President and General Manager in March, 1927, which position he held until March, 1943, when he was appointed Assistant to Receiver of Wisconsin Central Ry. On September 1, 1944, he received the appointment of General Manager of the Soo Line, which position he held until his recent election as Vice President and General Manager.



R. L. Simpson,
Vice President and General Manager, M. St. P. and S.S.M. Rd.

Mr. Kremer was born in Kalamazoo, Mich., May 10, 1900, and received his education there. On October 1, 1917, he took his first railroad position in that city, with the Pennsylvania Rd., as rate clerk. On October 1, 1924, he accepted an appointment as Travelling Freight Agent at Detroit for the Minneapolis and St. Louis Ry., and on January 1, 1929, made his first connection with the Soo Line as Travelling Freight Agent in the joint Soo Line-Canadian Pacific office at Grand Rapids, Mich. On December 1, 1934, he was appointed District Freight Representative at Detroit for the Canadian Pacific Ry. On January 1, 1937, he was transferred to St. Louis as District Freight Agent, and four years later was appointed General Freight Agent, C.P.R., at Detroit. In the following seven years he served that company as General Freight Agent at Boston and Chicago. On January 1, 1948, he joined the Soo Line as General Traffic Manager, in which position he served the company until elected to the office of Vice President, Traffic.

Soo Line results in 1949 were reviewed extensively in an article in our July issue, beginning on pg. 374. G. A. MacNamara, formerly Vice President, Traffic, C.P.R., is the Soo Line President.

First Class Mail in U.S.

An illuminating statement in regard to the carriage of the intercity mails in the United States was issued recently by William T. Faricy, President of the Association of American Railroads. He points out that the railways handle the great bulk of the United States mail. They carry approximately 94% of all first class mail, and their payment for this service last year was just a little over $27 million. The airlines carry approximately 6% of the first class mail, and their payment for this service last year was over $55½ million. The railways carry nearly 99% of the second and third class mail and parcel post.

Mr. Faricy's statement went on to say:—"The cost to the railroads of handling the mails includes a great deal more than just moving cars loaded with mail. It includes furnishing specially designed cars with space for sorting and distributing mail en route. It includes loading and unloading the mail at terminals and the expedited return of empty cars for prompt reloading with mail. The railroads perform all this service without receiving any sort of subsidy from the government.

Payment on Round-Trip Basis

"Railroads are paid for handling mail on the basis of space assigned. This system was set up by Congress in 1916 upon the recommendation of the Post Office Department. Because the movement of mail on most routes is much heavier in one direction than in the other, it was felt that it was equitable both to the Post Office Department and to the railroads to set the rate of payment on a round-trip basis, since it would be necessary to return empty many cars which were used to carry mail in the direction of heavy movement.

Cars Must Be Sent Back Promptly

"This empty return movement is necessary for many reasons. The principal reason is that the necessities of the postal service require that a supply of mail-carrying cars, suitably equipped for operation in passenger trains, shall at all times be available at the points where the heavy mail originates. This means that cars must be sent back promptly, loaded or empty. Where loads are available, the cars are loaded, but since express and baggage, like mail, move predominantly in one direction, there are cases in which no return loads are available. It is not practical to load freight in returning mail cars, since the cars are designed for movement in passenger trains and, if diverted to freight service, would be unduly delayed in getting back to meet the current heavy needs of the postal service.



W. W. Kremer,
Vice President, Traffic, M. St. P. and S.S.M.

One-Way Basis No Cheaper

"The Post Office Department would not save money by changing the present round-trip payment basis to a one-way basis. If a one-way basis of payment were substituted, the rate per mile would have to be approximately double the round-trip rate, as the law requires that the rates and method of payment be such that railroads will be properly compensated for their service in transporting the mail."

C.N.R. Spends $6 Million On New Cars

A Montreal press report records that the Canadian National Rys. expenditure for the cars ordered recently, as listed under the heading "Rolling Stock Orders and Deliveries" elsewhere in this issue, and the 100 70-ton longitudinal hopper cars ordered from National Steel Car Corp., Ltd., as recorded in our June issue, pg. 303, will entail expenditure of more than $6 million, according to announcement by E. A. Bromley, Vice President, Purchases and Stores.

Railway Operating and Financial Results

March, 1950 and 1949

	All Railways		Can National Rys.		Canadian Pacific Ry.	
Operating Revenues:—	**March, 1950**	**March, 1949**	**March, 1950**	**March, 1949**	**March, 1950**	**March, 1949**
Freight	$64,714,690	$61,610,342	$31,532,000	$29,417,000	$26,878,893	$25,818,289
Passenger	5,442,515	5,748,393	2,499,400	2,766,400	2,522,926	2,563,021
Mail	751,700	746,830	337,624	353,280	344,549	
Express	2,803,992	2,598,468	*1,985,605	*1,891,200	718,786	607,221
Other passenger train	734,080	774,711	290,502	318,950	418,710	434,884
Water line	36,296	43,056			26,033	33,638
All other	3,608,381	2,803,340	2,055,543	1,479,526	1,311,188	1,089,367
Total Railway Operating Revenues	78,091,654	74,325,140	*38,685,700	*36,210,700	32,229,816	30,890,969
Operating Expenses:—						
Maintenance of way and structures	12,114,547	12,375,154	6,132,529	5,786,011	5,044,081	5,667,027
Maintenance of equipment	17,194,212	17,141,674	8,875,923	8,785,539	7,303,030	7,220,683
Traffic	1,533,735	1,454,850	721,081	662,231	697,574	674,225
Transportation	35,158,043	35,233,741	19,194,342	18,780,982	13,434,862	13,904,986
Miscellaneous operations	1,025,552	1,105,421	353,177	342,311	563,502	659,207
General	3,529,981	3,301,402	1,777,664	1,635,446	1,470,655	1,342,169
Total Railway Operating Expenses	70,556,070	70,612,242	37,054,716	35,992,520	28,513,704	29,468,297
Operating Income:—						
Net operating revenue	7,535,584	3,712,898	1,630,984	218,180	3,716,112	1,422,672
Railway tax accruals	1,469,201	1,526,279	620,084	604,663	457,223	457,323
Joint facilities rents	Dr. 629,841	Dr. 720,160	Dr. 58,544	Dr. 46,014	Cr. 75,342	Dr. 76,990
Hire of equipment	Dr. 137,428	Dr. 151,129	Cr. 9,446	Dr. 9,110	Dr. 70,095	Dr. 74,435
Operating income	5,299,114	1,315,330	961,802	Dr. 441,607	3,264,136	813,924
Operating Statistics:—						
Average miles of road operated	43,316.87	42,522.54	22,513.07	21,705.14	17,019.3	17,032.3
†No. of tons carried (Rev. Fr.)	13,023,029	13,343,619	5,530,653	5,535,086	4,553,436	4,882,125
No. of tons carried one mile (Rev. Fr.) Thous.	4,972,868	5,177,908	2,482,746	2,547,033	2,118,640	2,259,682
No. of tons carried one mile (All Fr.) Thous.	5,490,014	5,605,655	2,782,068	2,764,142	2,324,543	2,458,692
Gross ton miles, excl. of locomotive & tender Thous.	11,875,739	‡12,061,701	5,974,502	5,868,660	5,019,367	5,279,749
No. of revenue passengers carried	2,537,608	2,796,313	1,379,693	1,532,954	975,135	1,050,177
No. of revenue passengers carried one mile. . . Thous.	195,937	233,196	88,390	114,943	89,947	99,599
Freight train miles	7,359,587	7,431,461	3,615,845	3,533,467	3,223,461	3,339,189
Passenger train miles	3,556,047	3,771,261	1,703,609	1,837,869	1,637,563	1,685,586
Total train miles (rev. and non rev.)	11,117,617	11,376,127	5,446,415	5,483,176	4,929,611	5,076,704
Freight car miles—loaded	190,058,003	184,116,113	97,182,045	91,714,481	78,699,306	78,577,747
Freight car miles—empty	75,372,810	86,562,861	36,417,017	39,723,543	32,711,377	39,746,733
Passenger train car miles	30,216,318	32,152,799	14,818,639	15,629,589	13,436,826	14,091,589
Total amount of pay roll	$41,683,560	‡$41,311,031	$23,104,359	$22,505,831	$16,219,461	$16,421,992
Number of employees	173,753	‡ 174,401	98,927	98,061	65,444	66,900
Pay roll chargeable to ry. operating expenses	$38,864,033	‡$38,418,823	$21,316,940	$20,577,016	$15,275,172	$15,559,151
Daily Averages Per Mile of Road Operated:—						
Operating revenue	$58.15	$56.36	$55.43	$53.82	$61.09	$58.51
Operating expenses	$52.54	$53.57	$53.09	$53.49	$54.04	$55.81
No. of tons moved one mile (Rev. Fr.)	3,703	3,928	3,557	3,785	4,016	4,280
No. of tons moved one mile (All Fr.)	4,088	4,253	3,986	4,108	4,406	4,657
No. of revenue passengers carried one mile	146	177	127	171	170	189
Averages Per Freight Train Mile:—						
Freight revenue	$8.79	$8.29	$8.72	$8.33	$8.34	$7.73
No. of tons of freight (Rev. Fr.)	676	697	687	721	657	677
No. of tons of freight (All Fr.)	746	754	769	782	721	736
Gross ton miles	1,614	1,623	1,652	1,661	1,557	1,581
Loaded freight cars	25.8	24.8	26.9	26.0	24.4	23.5
Empty freight cars	10.2	11.6	10.1	11.2	10.1	11.5
Averages Per Passenger Train Mile:—						
Passenger train revenues	$2.74	$2.62	*$2.99	*$2.89	$2.45	$2.34
Passengers carried	55	62	52	63	55	59
Passenger cars	8.5	8.5	8.7	8.5	8.2	8.4
General Statistics:—						
Average operating expenses per train mile	$6.35	$6.21	$6.80	$6.56	$5.78	$5.80
Average length of haul (Rev. Fr.) Miles	382	388	449	460	465	463
Average passenger journey Miles	77	83	64	75	92	95
Average tons per loaded freight car mile	28.9	30.4	28.6	30.1	29.5	31.3
Average freight receipt per revenue ton mile	1.301c	1.190c	1.270c	1.155c	1.269c	1.143c
Average passenger receipt per passenger per mile	2.778c	2.465c	2.828c	2.407c	2.805c	2.573c
Ratio of operating pay roll to operating revenues	49.8%	51.7%	55.1%	56.8%	47.4%	50.4%
Ratio of operating expenses to revenues	90.35%	95.00%	95.78%	99.40%	88.47%	95.39%

† Includes duplications. ‡ Revised. * Includes gross express revenue.
The above figures relate to those railways with annual operating revenues of $500,000 or over.
C.N.R. figures include only C.N.R. lines in Canada with the exception of Hudson Bay Ry.
C.P.R. lines include all subsidiary lines in Canada.

Passenger and freight train miles contain a proportion of mixed train miles, divided on the basis of freight and passenger car miles in mixed train service. Total train miles include freight and passenger with their proportion of mixed train miles, special train and non-revenue train miles. The average freight revenue per freight train mile includes only rail line revenue. Average train revenue per passenger train mile includes revenue from passengers, mail, express, baggage, parlor cars, etc.

March a Better Month

With an increase of nearly $4 million in operating revenues, and with a small reduction in operating expenses, compared with those of March, 1949, March this year was a better month for the Canadian railways than were immediately preceding ones. The net operating revenue of the railways collectively increased from $3,712,898 in March last year to $7,535,584 in the month this year, while operating income was up from $1,315,330 to $5,299,114. These results furnish a strong contrast with those of February and January. In February there was an operating income deficit of $1,481,656, and in January one of $5,414,625.

Total operating revenues for the railways collectively increased from $74,325,140 in March, 1949, to $78,091,654 in the month this year. Freight traffic revenue was up from $61,610,342 to $64,714,690, and the Dominion Bureau of Statistics, Transportation Division, the authority for the figures in the large table at the beginning of this review, states that part of the improvement in revenue in March this year was likely attributable to the backlog of freight which accumulated during the difficult months of January and February in the far west. Also, it is noted, the freight traffic revenue was assisted by the higher rates granted March 23 this year and October 11 last year. The total operating revenues in March this year were 5.1% greater than those of the 1949 month.

Passenger traffic revenue for the railways collectively decreased from $5,748,393 in March, 1949, to $5,442,515 in the month this year. Mail revenue was up slightly, viz., from $746,830 to $751,700, while express revenue increased substantially, viz., from $2,598,468 to $2,803,992. There was a decrease of from $774,711 in the 1949 month to $734,080 in the "other passenger train" revenue, and one of from $43,056 to $36,296 in water line revenue. "All other" revenue increased substantially, viz., from $2,803,340 in the 1949 month to $3,608,381.

The increase in freight traffic revenue in March this year over that of the 1949 month, $3,104,348, was one of 5%, while the decrease in passenger traffic revenue was one of 5.3%. The increase in express revenue was one of 7.9%.

The decrease in total operating expenses for the railways collectively was from $70,612,242 in March last year to $70,556,070. The outlay on maintenance of way and structures decreased from $12,375,154 in the 1949 month to $12,114,547, or by 2.1%, but there was an increase of from $17,141,674 to $17,194,212 in the expenditure on maintenance of equipment. Traffic expenses were up from $1,454,850 in March last year to $1,533,735, or by 5.4%, but transportation expenses, on the other hand, decreased slightly, viz., from $35,233,741 in the 1949 month to $35,158,043. Expenses of miscellaneous operations decreased by 7.2%, but general expenses were up from $3,301,402 in the 1949 month to $3,529,981.

With total operating revenues increased, and with the slight reduction in total operating expenses, the net operating revenue for the railways collectively increased from $3,712,898 in March last year to $7,535,584, and with reductions in tax accruals, in the hire of equipment debit and in the joint facilities rents debit, the operating income increased as above noted, viz., from $1,315,330 to $5,299,114. The operating ratio was reduced from 95% in March last year to 90.35% in the month this year.

The increase in freight traffic revenue secured in March this year was the result of a better average freight rate, there having been decreases in both the tonnage and ton mileage of revenue freight handled. The number of tons carried decreased from 13,343,619 in the 1949 month to 13,023,029, and, with a reduction from 388 miles to 382 miles in the average length of freight haul, the revenue freight ton mileage decreased in the ratio 5,178:4,973, or by 4%. The reduction in revenue freight tonnage was one of 2.4%. Quite large reductions in the traffic in grain and pulpwood, and in l.c.l. shipments, more than counterbalanced increases in coal, lumber, crude oil, automobiles and newsprint.

In the handling of the freight traffic offering, freight train miles operated were reduced from 7,431,461 in March last year to 7,359,587 in the month this year. Loaded freight car miles increased in the ratio 1,841:1,900, or by 3.2%, but average car loading was off from 30.4 tons in March last year to 28.9 tons, and average revenue freight tonnage per freight train mile came down from 697 in the month last year to 676. Empty freight car miles were reduced in the month this year in the ratio 8,656:7,537, or by 12.9%. Despite the reduction in revenue freight tonnage per freight train mile, freight revenue per freight train mile increased from $8.29 in March last year to $8.79, because of the better average freight rate applying, the average receipt per revenue ton mile having been up from 1.190c in March last year to 1.301c. The Bureau notes that the average receipt per revenue ton mile for Class 1 railways in the United States in March this year exceeded 1.4c. It also notes that the increase in loaded freight car miles, despite the decrease in revenue freight ton mileage, was due largely to augmented movement of non-revenue coal to replenish railway stocks, and also to the reduction in average car loading. The average freight tonnage per freight train mile, of all freight, revenue and o.c.s, was 746 for March this year, compared with 754 for the month last year, a reduction of only eight tons, compared with the reduction of 21 tons in the tonnage of revenue freight per freight train mile. Gross ton miles per freight

All Railways

	Three Months Ended March 31			
	1950	1949	1948	1947
Operating revenues	$204,827,730	$207,278,801	$188,270,217	$175,698,386
Operating expenses	199,439,296	203,695,561	178,425,412	163,426,990
Net operating revenue	5,388,434	3,583,240	9,844,805	12,271,396
Operating income	*1,597,167	*4,015,985	566,965	3,434,253

*Deficit.

The above figures apply to all Canadian railways with annual operating revenue of $500,000 or over; those of the C.N.R. United States lines are not included.

Canadian Pacific Railway

(Including Canadian Subsidiaries)

	Gross Earnings		Working Expenses		‡Net Earnings		Increase
	1950	1949	1950	1949	1950	1949	
January	$24,544,458	$27,767,495	$26,488,163	$28,068,619	*$1,943,705	*$301,124	†$1,642,581
February	26,403,293	26,899,834	26,360,682	27,093,984	42,611	* 194,150	236,761
March	32,229,816	30,890,969	28,965,680	30,077,045	3,264,136	813,924	2,450,212
April	29,782,941	30,136,788	27,843,187	28,832,033	1,939,754	1,304,755	643,999
May	32,022,334	30,471,803	29,616,305	29,617,698	2,406,029	854,105	1,551,924
	$144,982,842	$146,166,889	$139,274,017	$143,689,379	$5,708,825	$2,477,510	$3,231,315

* Deficit † Decrease ‡ After hire of equipment, joint facility rents and taxes.

C.P.R. U.S. Subsidiaries

	Minneapolis, St. Paul and Sault Ste. Marie Rd.		Wisconsin Central Ry.	
	1950	1949	1950	1949
May:—				
Railway operating revenues	$ 2,847,446	$ 2,766,739	$ 2,363,015	$ 2,349,077
Railway operating expenses	2,838,436	2,419,874	1,827,897	1,743,490
Net revenue from railway operations	9,010	346,865	535,118	605,587
Railway operating income	* 213,108	142,895	403,364	467,808
Net railway operating income	* 241,265	114,451	266,647	345,144
Five Months to May 31:—				
Railway operating revenues	$12,034,330	$12,254,018	$10,652,913	$11,169,146
Railway operating expenses	12,224,682	11,960,985	8,470,669	8,912,710
Net revenue from railway operations	* 190,352	293,033	2,182,244	2,256,436
Railway operating income	* 1,165,016	* 645,034	1,526,332	1,557,866
Net railway operating income	* 1,326,860	* 848,068	794,938	909,968

*Deficit

Canadian National Railways

	Operating Revenues		Operating Expenses		Net Revenue		Increase
	1950	1949	1950	1949	1950	1949	
January	$35,041,000	$37,309,000	$37,605,000	$38,797,000	*$2,564,000	*$1,488,000	†$1,076,000
February	36,765,000	36,901,000	38,122,000	38,398,000	* 1,357,000	* 1,497,000	140,000
March	44,865,000	41,436,000	41,796,000	40,591,000	3,069,000	845,000	2,224,000
April	43,978,000	40,355,000	39,522,000	38,748,000	4,456,000	1,607,000	2,849,000
May	47,534,000	40,184,000	41,197,000	39,587,000	6,337,000	597,000	5,740,000
	$208,183,000	$196,185,000	$198,242,000	$196,121,000	$ 9,941,000	$ 64,000	$ 9,877,000

* Deficit † Decrease.

Central Vermont Railway (C.N.R. Subsidiary)

	May		Five Months to May 31	
	1950	1949	1950	1949
Railway operating revenues	$872,000.00	$801,000.00	$4,093,000.00	$3,953,000.00
Railway operating expenses	702,609.90	683,780.12	3,434,409.78	3,489,780.31
Net revenue from railway operations	169,390.10	117,219.88	658,590.22	463,219.69
Net railway operating income	82,259.53	11,987.59	161,936.22	* 2,395.24
Net income available for interest	70,923.19	*11,064.35	56,892.57	* 122,913.53

* Deficit

Combined Figures of C.N.R. Canadian and U.S.A. Lines

	March, 1950	March, 1949
Operating Revenues		
Canadian Lines	$ 38,685,700	$ 36,210,700
United States Lines	6,179,300	5,225,300
Total	44,865,000	41,436,000
Operating Expenses		
Canadian Lines	37,054,716	35,992,520
United States Lines	4,741,284	4,598,480
Total	41,796,000	40,591,000
Net Operating Revenue		
Canadian Lines	1,630,984	218,180
United States Lines	1,438,016	626,820
Total	3,069,000	845,000
Operating Income		
Canadian Lines	961,802	* 441,607
United States Lines	834,939	158,007
Total	1,796,741	* 283,600

	Three Months Ended March 31	
	1950	1949
Operating Revenues		
Canadian Lines	100,884,000	100,387,000
United States Lines	15,787,000	15,259,000
Total	116,671,000	115,646,000
Operating Expenses		
Canadian Lines	104,175,775	104,244,449
United States Lines	13,347,225	13,541,551
Total	117,523,000	117,786,000
Net Operating Revenue		
Canadian Lines	* 3,291,775	* 3,857,449
United States Lines	2,439,775	1,717,149
Total	* 852,000	* 2,140,000
Operating Income		
Canadian Lines	* 5,382,400	* 5,984,624
United States Lines	657,373	154,416
Total	* 4,725,027	* 5,830,208

train mile came down from 1,623 in the 1949 month to 1,614. Average number of loads per freight train was up from 24.8 in the month last year to 25.8, while the number of empties decreased from 11.6 to 10.2.

As noted above, passenger traffic revenue decreased from $5,748,393 in March last year to 5,442,515 in the month this year. The number of revenue passengers carried decreased from 2,796,313 to 2,537,608, and, with a reduction of from 83 miles to 77 miles in the average passenger journey, revenue passenger mileage decreased in the ratio 2,332:1,960; the decrease in number of revenue passengers carried was one of 9.3%, while that in revenue passenger mileage was one of 16%. The reduction in passenger traffic revenue would have been greater than it actually was had it not been for an increase of from 2.465c to 2.778c in the average receipt per passenger mile.

Inspection of the figures recording daily averages per mile of road operated shows that the operating revenue on this basis for the roads collectively increased from $56.36 in March last year to $58.15 in the month this year, while the operating expenses per mile of road per day decreased from $53.57 to $52.54. The ton mileage of revenue freight moved per mile of road per day was down from 3,928 in March last year to 3,703, the reduction as concerns the ton mileage of all freight having been from 4,253 to 4,088. Revenue passenger miles per mile of road per day decreased from 177 to 146.

The total payroll for the railways collectively in March this year, $41,683,560, exceeded that in March last year by 0.9% and the number of employees, 173,753, represented a reduction of 0.4% from the number in March last year, despite the addition of some 4,200 Newfoundland employees to the Canadian National Rys. staff. The portion of the total payroll chargeable to railway operating expenses increased from $38,418,823 in March last year to $38,864,033, but the ratio of operating payroll to operating revenues declined from 51.7% in March last year to 49.8%.

Newfoundland Rail Lines Included in March, 1950, Figures—The figures for March this year and last, in the table preceding this review, for the railways collectively and Canadian National Rys., are not strictly comparable, for the reason that the statistics for the C.N.R. Newfoundland lines are included in the March, 1950, figures. The March, 1949, figures do not include those of the C.N.R. Newfoundland lines.

It is also to be pointed out that the C.N.R. figures in the third and fourth columns of the table are for the Canadian lines only; they do not include the operations of the Duluth, Winnipeg and Pacific, the Grand Trunk Western, the Central Vermont, and the C.N.R. lines in New England. Neither do they include the figures of the Hudson Bay Ry., which is owned by the Government of Canada and operated by the C.N.R. as agent. Figures for the whole Canadian National system appear in small tables accompanying this review.

April Results on Transcontinental Railways

The results secured in April by the Canadian National Rys. whole system were recorded in our July issue, pg. 381, where it was noted that the net operating revenue increased from $1,607,000 in April, 1949, to $4,456,000 in the month this year, an improvement of $2,849,000. In the first four months of 1949, the C.N.R. whole system had an operating deficit of $533,000, and in the first four months of this year there was net operating revenue of $3,604,000, an improvement of $4,137,000. thus having been effected. (Through the omission of an asterisk, C.N.R. operating deficit of $533,000 was shown in our July issue as net operating revenue of that amount.)

On the Canadian Pacific, in April, there were net earnings of $1,939,754, compared with $1,304,755 in April, 1949, an improvement of $643,999. C.P.R. net earnings in the first four months of this year were $3,302,796, compared with $1,623,405 in the first four months of 1949, an improvement of $1,679,391.

In May this year, C.N.R. whole system net earnings were far ahead of those of May last year, there having been an increase of from $597,000 to $6,337,000, or $5,740,000. Gross earnings were up by $7,350,000 and operating expenses by only $1,610,000. As a result of the good month in May, C.N.R. system net in the first five months of this year, $9,941,000, exceeded that in the first five months of 1949 ($64,000) by $9,877,000.

The C.P.R., in May, also effected a large betterment in net earnings, compared with those of May last year, although not as large as did the Canadian National. With gross earnings in May this year up by $1,550,531, and with a decrease of $1,393 in operating expenses, the C.P.R. net earnings in the month this year, $2,406,029, exceeded those in May last year by $1,551,924. C.P.R. net earnings to the end of May were $5,708,825, compared with $2,477,510 in the first five months of 1949, an improvement of $3,231,315.

C.N.R. Canadian and U.S. Lines

C.N.R. whole system net operating revenue in March was $3,069,000, to which the Canadian lines contributed $1,630,984 and the United States lines $1,438,016. In March last year, the Canadian lines produced net operating revenue of $218,180, and the United States lines $626,820, for a system total of $845,000.

In the first quarter of this year, the C.N.R. whole system experienced an operating deficit of $852,000. While the United States lines earned net operating revenue of $2,439,775, the Canadian lines had an operating deficit of $3,291,775. In the first three months of 1949 there was a system operating deficit of $2,140,000; while the United States lines earned net operating revenue of $1,717,449, the Canadian lines experienced an operating deficit of $3,857,449.



Mr. Howard Examines New Form

Canadian Overseas Telecommunication Corporation

The Canadian Overseas Telecommunication Corp., the formation of which was dealt with in our May issue, pg. 244, began operation on July 1. This Crown company was formed by Canada, as a signatory to the Commonwealth Telegraphs Agreement of May 11, 1948, to acquire the external telecommunication assets operating to and from Canadian territory, including those of Canadian Marconi Co., Ltd., and Cable and Wireless, Ltd. As recorded, David L. Howard, who was previously Assistant General Manager, Canadian Pacific Communications, was selected to become President and General Manager of the

new Crown company. The term "Via Canadian" has been adopted for the company's cablegram blanks, and an accompanying illustration shows Mr. Howard examining a printer's proof of the new form, on which "Via Canadian" replaces such terms as "Via Marconi" and "Via Imperial." With the setting up of new companies by other governments within the British Commonwealth, as in Canada, consolidation and strengthening of the radio and cable communications systems of the Commonwealth are brought about.

C. E. Jefferson Addresses Manufacturers

In speaking on behalf of the Railway Association of Canada before the Transportation Conference of the Canadian Manufacturers' Association, at its recent annual meeting, the C.P.R. Traffic Vice President dealt with two subjects now much to the fore, viz., the growing use of Diesel-electric locomotives, and equalization of freight rates.

In the past, it has been customary for the General Secretary of the Railway Association of Canada to address the Transportation Conference of the Canadian Manufacturers' Association at the C.M.A. annual meetings, but this year, owing to the unavoidable absence in Europe of the Railway Association of Canada General Secretary, Mr. Brass, C. E. Jefferson, Vice President, Traffic, C.P.R., was called upon to speak on behalf of the railway industry, and in his address dealt with two aspects of railroading now quite prominently before the general public, viz., Dieselization of railway motive power, and proposals for equalization of freight rates throughout Canada. In introductory remarks, Mr. Jefferson said: "On the first subject I have little technical knowledge, therefore my remarks must of necessity convey to you a statement prepared by the departmental officers more qualified than myself to discuss the question in any detail.

"On the second subject, 'Equalization of Freight Rates,' a traffic man should have sufficient knowledge of the question to discuss it in a reasonably intelligent manner. In doing so I intend to deal with it precisely as I did before the Royal Commission on Transportation and also to review briefly and without prejudice the views expressed by the Western Provinces and the Maritime Provinces."

In this issue we present Mr. Jefferson's remarks in regard to the Dieselization of motive power, and we hope to present his statements in regard to freight rate equalization in the September issue. Concerning the increasing use of Diesel-electric locomotives, he stated as in the following.

It is most important that the people of Canada have a thorough appreciation of the position in which the Canadian railways are now placed. This is particularly true for all Canadians who, as users of transportation, are vitally concerned with the quality and cost of transportation. Our problems and our objectives as producers of transportation service are basically the same as your problems and your objectives as producers of manufactured goods. Indeed, our problems are the same as those of any persons or firms engaged in the production and sale of any goods or services anywhere in Canada. We operate under the same economic conditions and our success is dependent upon our being able to give the best service at the lowest posssible cost. Efficiency of our transportation system is a matter of the utmost concern to the whole Canadian economy.

It is not necessary to tell you that, in these days when labour and material costs are at their highest levels, the ability of any enterprise to maintain or improve the quality of its goods or services, and at the same time to keep its costs down, is dependent upon its being able to obtain modern efficient equipment and facilities and to use them effectively. Technological improvements are chiefly responsible for the gradually increasing standard of living in this country. We in the railways want to take advantage of the technological advancements available to us just as you are doing in the manufacturing industries. We believe that to do so is in your interests and in the interests of all Canada.

This is not a new policy or a new concept for the Canadian Railways, who have always adopted improved equipment and methods as rapidly as circumstances would permit, and the best evidence of this is the fact that, notwithstanding the great increases in wage rates and material prices that have occurred in the last 65 years, the average cost of rail transportation to the shipper is no higher today than it was in 1885. The railways today are just as alert and just as conscious of the need for improvements as they have ever been.

The Canadian Pacific, with whose policies I have more complete knowledge, has told the Royal Commission on Transportation that a programme costing $400,000,000 over a five year period is required to take care of the first phase of the rebuilding of railway facilites and equipment. The magnitude of this amount is accounted for to some extent by the fact that during the depression of the thirties, and again during the war and postwar periods, normal capital programmes were retarded owing to existing economic conditions.

The improvements we have in mind fall generally into three categories. These are:—

1. Equipment, which is principally motive power and railway cars.
2. Terminals.
3. Methods of operation.

Much has already been done. Much more remains to be done and the pace at which it can be carried out will naturally depend in no small measure upon our earnings and the effect which they have upon our financial and credit position.

In July this year we will put into operation in Montreal a large new terminal which has been described as one of the finest and most up-to-date on the continent. Its purpose is to serve the Island of Montreal and the vast shipping interests that converge there. The service capable of being given with this new terminal far exceeds in quality and quantity anything that would have been possible with our older terminal facilities. This terminal alone will cost the railway over $11,000,000. Our plans include similar improvements at other major points in Canada when finances permit.

Regarding equipment, careful analysis has shown us that the railways must provide a certain amount of new, modern freight equipment in the form of cars each and every year in order to provide for the growing and specialized needs of Canadian industry. A large number of freight cars per year are needed merely to restore the work capacity used up yearly in handling the nation's freight. The railways are getting behind in the restoration of that work capacity. It is just as vital to the manufacturers and to all other shippers as it is to the railways that their earnings and financial position permit them to provide each and every year the needed equipment to handle the nation's business.

You are no doubt all aware in a general way of the great role being played by Diesel-electric locomotives in the railway picture on this continent. The change-over from steam to Diesel locomotives is taking place at such a rate as to constitute almost a revolution in railway motive power. An increasing number of railways in the United States are giving much credit to Diesels for the strengthening of their economic position and their ability to give good service at low cost.

Canadian railways have been gradually acquiring Diesel-electric switching locomotives since early in the war and the major terminals in Canada

are now fairly well equipped with this new type of locomotive. In the application of Diesels to road service, we have not advanced as rapidly as many railways in the United States. Only recently has provision been made for the manufacture of these locomotives in Canada; and with duty and exchange to pay it was exceedingly expensive to purchase them in the United States. Nevertheless, Canadian railways have been giving careful, intense study to the possible advantages and economies from the use of Diesels in road service.

The Canadian Pacific services on Vancouver Island have been completely Dieselized and we have also completely Dieselized our road services, both passenger and freight, between Montreal and Wells River, Vermont—an important section of our line from the point of view of international traffic and earnings of U.S. funds. This year the Schreiber Division of our main line on the north shore of Lake Superior will also be completely converted to Diesel locomotives for freight service. Further area studies have been completed or are in progress and a very clear and definite programme for Dieselization is being worked to.

The Dieselization programme is economically self-supporting in the sense that it will produce savings in operating costs more than sufficient to carry increased interest and depreciation charges. The programme does, however, involve large capital expenditures not only for the locomotives themselves but also for new and altered facilities to service them. The pace at which the programme can be carried out is therefore dependent upon the ability to finance the large capital expenditures for this as well as other improvement projects. An idea of the size of investments involved for Dieselization alone may be gathered from the fact that this year the Canadian Pacific expenditures on Diesel locomotives and facilities to serve them will exceed $13,000,000, and the Dieselization programme which it is hoped can be carried out in 1951 will cost over $15,000,000.

My reference to what has been done and what it is intended to do would not be complete without some mention of the means by which and the extent to which improvements can be effected by Diesel locomotives. Briefly, the Diesel-electric locomotive is essentially an electric power plant and the traction motors, with the various electrical combinations, makes it possible to use the horsepower generated by the Diesel engine at practically all speeds in excess of six miles per hour. With the steam locomotive, maximum horsepower can only be utilized at speeds over 35 m.p.h. This means that the Diesel locomotive has power available for hauling trains under the most adverse grade conditions, and are enabled to haul greater tonnage in less overall time with the same horsepower capacity. This means more tonnage with fewer trains, which of course increases the capacity of the railroads and reduces their expense for train operation.

The Diesel will burn one-fifth the amount of fuel (in terms of heat value or B.T.U. content) that a steam locomotive will burn, which results in substantial savings in fuel.

As a general statement, it is expected, for all conditions under which Diesel locomotives will operate, that they should make a net saving of 10% on the capital invested, and, under special circumstances, a clear return very much in excess of 10%.

New facilities and equipment permit the adoption of new and improved methods of operation. Improvements in terminal facilities will enable the railways to expedite the handling of traffic in and through terminals. The application of Diesels in road service will expedite movement over the road because, with Diesels being able to use their power either to pull over the grade at low speed or to run at greater speed on level track, it will not be necessary to change tonnage at intermediate points to the same extent as with steam power. The use of helper or assisting engines that have to be cut in and out of trains will also be eliminated. By these means train delays will be reduced and better scheduling of freight service provided.

Unusual Lading on C.N.R.

Some freight movements, due to unusual size or shape, demand all the ingenuity of the railways, and one which required some calculated handling is brought to attention in the accompanying illustration. The spliced poles shown were 90 and 135 ft. in length, and three flat cars were required to accommodate this shipment. The poles were moved from St. Lambert, Que., to Sackville, N.B., by Canadian National Rys., for the use of the radio station at Sackville. Slow orders were in effect for the shipment, as allowances had to be made for slippage of the load on its bunks on the curves. The poles arrived at destination in good condition.

A.A.R. Accounting Division Meeting

At time of writing, July 20, plans are complete for the annual meeting of the Accounting Division of the Association of American Railroads, at the Chateau Laurier, Ottawa, July 31-August 3 inclusive. The first day of the meeting, July 31, will be devoted to the usual "open house" committee meetings. The opening session is being held on August 1, beginning at 10 a.m., in the hotel's Convention Hall, and is being followed by a buffet luncheon in the ballroom at 1 p.m.

T. H. Cooper, Vice President and Comptroller, Canadian National Rys., is chairman of the committee on arrangements, the other members being E. A. Leslie, Vice President and Comptroller, C.N.R.; H. A. Cresswell, Vice President and Treasurer, Canada Steamship Lines, Ltd.; J. C. Lessard, Deputy Minister of Transport, and G. C. Brooks, Auditor of Freight Receipts, C.P.R.



A Shipment of 90 ft. and 135 ft. Poles on Three Flat Cars on the C.N.R.

Transportation Appointments

The information under this head, which is gathered almost entirely from official sources, is compiled with the greatest care, so as to ensure accuracy. Anyone who may notice any error in the announcements will confer a favour by advising the Editor.

Canadian National Railways

J. A. ARGO, previously Freight Traffic Manager, Central Region, has been appointed Assistant General Freight Traffic Manager, with jurisdiction over the entire system and with headquarters at Montreal, succeeding the late C. W. Wells.

W. J. COLLING has been appointed Mechanical and Rule Instructor, Southern Ontario District, Toronto, succeeding G. F. Wade, transferred.

W. B. JACKSON, previously Assistant Division Engineer, Levis Division, has been appointed Division Engineer, Cochrane Division, Cochrane, Ont., succeeding V. S. Fowlow, transferred.

JAMES PULLAR, previously Architect, Moncton, N.B., has been appointed Building Engineer, Atlantic Region, with headquarters at Moncton, N.B., succeeding H. J. Crudge, retired after many years of faithful service.

G. E. SMITH, previously General Freight Agent, Toronto, has been appointed Freight Traffic Manager, Central Region, Toronto, succeeding J. A. Argo, promoted.

Canadian National Railways—Grand Trunk Western Rd.

A. J. MEDROW, previously Chief of Tariff Bureau, Chicago, has been appointed Assistant General Freight Agent, Chicago, with Grand Trunk Western Rd. Co. jurisdiction.

M. PARR has been appointed Chief of Tariff Bureau, with headquarters at Chicago and with Grand Trunk Western Rd. Co. jurisdiction.

Canadian Pacific Railway

R. S. ALLISON has been appointed Division Engineer, London Division, London, Ont., succeeding J. Lundie, transferred.

A. BUTTERWORTH, previously carpenter, has been appointed Assistant Coach Shop Foreman, Weston Shops, Winnipeg, succeeding J. B. Nelson, retired under the company's pension plan.

B. S. CUSECK has been appointed Night Chief Dispatcher, London, Ont., succeeding C. G. Tripp, appointed Chief Dispatcher there.

G. B. DEVINE, previously carman, Kamloops, B.C., has been appointed Night Car Foreman, Revelstoke, B.C., this being a new position.

G. W. ETCHES, previously Assistant Car Foreman, Cartier, Ont., has been appointed Assistant Car Foreman, Schreiber, Ont., succeeding C. A. Phillips.

J. V. FORREST, previously Assistant Superintendent, Moose Jaw, has been appointed Assistant Superintendent, Winnipeg Terminals, succeeding M. J. Wolfe, appointed Assistant Superintendent at Moose Jaw, succeeding Mr. Forrest.



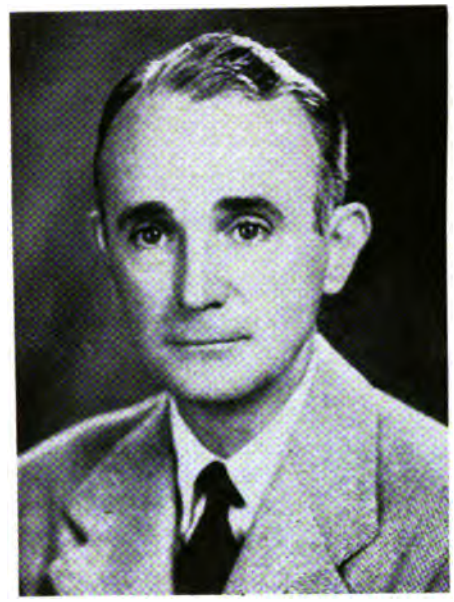
J. O. Johnston,
Superintendent, London Division, C.P.R.
(See June issue, pg. 310.)

N. R. HAY, previously Locomotive Foreman, London, Ont., has been appointed Locomotive Foreman, Ottawa, succeeding J. V. Powers, transferred.

N. M. KELLY has been appointed Assistant Engineer in the office of the Engineer of Maintenance of Way, Eastern Region, with headquarters at Toronto.

A. LACHANCE, previously Supervisor of Car Equipment, has been appointed Assistant Superintendent of Car Equipment, with headquarters at Toronto.

J. LUNDIE has been appointed Assistant District Engineer, Ontario District, with headquarters at Toronto, succeeding N. B. Roberts, transferred.



G. R. Nolan,
General Agent, C.N.R.—G.T.W., Cincinnati.
(See June issue, pg. 310.)

J. B. MacPHERSON, previously Assistant Superintendent, Toronto, has been appointed Supervisor of Transportation, Saint John, N.B., succeeding H. R. Worth, transferred.

B. J. MAHAN has been appointed Assistant Superintendent, Toronto, succeeding J. B. MacPherson, transferred.

R. R. MORRISH has been appointed Roadmaster, Port Burwell, St. Thomas and St. Marys subdivisions, London Division, succeeding P. Primeau, transferred.



P. L. Belcourt, B.A., B.Ph., B C.L.,
whose appointment as Assistant Secretary, C.N.R. and subsidiaries, was recorded in our June issue, pg. 310. Biographical information in regard to him appeared in our July issue, pg. 385.

C. G. PARSONS, previously fitter, John Street, Toronto, has been appointed Locomotive Foreman, Orangeville, Ont., succeeding W. V. Carlton, resigned.

C. A. PHILLIPS, previously Assistant Car Foreman, Schreiber, Ont., has been appointed Assistant Car Foreman, North Bay, Ont., succeeding J. B. Clarke, transferred.

J. V. POWERS, previously Locomotive Foreman, Ottawa, has been appointed Locomotive Foreman, Glen Yard, Montreal, succeeding E. D. Stevens, transferred.

P. PRIMEAU, previously Roadmaster, Port Burwell, St. Thomas and St. Marys Subdivisions, London Division, has been appointed Roadmaster, Goderich Subdivision, with headquarters at Guelph, succeeding W. Sproule.

N. B. ROBERTS, previously Assistant District Engineer, Ontario District, has been appointed Assistant Engineer in the office of the Engineer of Maintenance of Way, Eastern Region, Toronto.

C. G. THOMPSON, previously carman, North Bay, has been appointed Car Foreman, Cartier, succeeding G. W. Etches, transferred.

C. G. TRIPP, previously Night Chief Dispatcher, London, Ont., has been appointed Chief Dispatcher there, succeeding H. R. Butterill, retired on pension.

M. J. WOLFE, previously Assistant Superintendent, Winnipeg Terminals, has been appointed Assistant Superintendent, Moose Jaw, succeeding J. V. Forrest, appointed Assistant Superintendent, Winnipeg Terminals, succeeding Mr. Wolfe. Mr. Wolfe's jurisdiction is over the following subdivisions on the Moose Jaw Division:- Outlook, Kerrobert, Expanse, Shaunavon, Fine Lake, Wood Mountain, Colony, Matador and McMorran.

H. R. WORTH, previously Supervisor of Transportation, Saint John, N.B., has been appointed Supervisor of Transportation, Ontario District ,with headquarters at Toronto, succeeding G. S. Depew, retired under the pension plan after many years of faithful and efficient service.

C.P.R. Electric Lines—Lake Erie and Northern Ry.

JOHN L. McQUARRIE has been appointed Engineer, Lake Erie and Northern Ry. Co., of Canadian Pacific Electric Lines, succeeding F. H. Midgley, retired.

Department of Transport

MAJOR ROBERT DODDS, O.B.E., M.C., previously Superintendent of Airways and Airports, has been appointed Controller of Civil Aviation, succeeding A. D. McLean, whose appointment as a member of the Air Transport Board was recorded in our July issue, page 388.

Toronto, Hamilton and Buffalo Railway

A circular issued over the signature of W. B. Salter, General Manager, July 5, records the promotion of CECIL M. DENT to the position of General Auditor; of HARRY H. WALL to the position of Assistant General Auditor, and of ALBERT E. COOK to the position of Superintendent of Personnel and Departmental Accountant.



D. C. Hartley,
Superintendent, Revelstoke Division, C.P.R.
(See June issue, pg. 310)

Also recorded is the appointment of JOHN A. FLETCHER to the position of Safety Agent. The circular records that the positions of Auditor, Assistant Auditor and Safety and First Aid Officer have been abolished.

C.N.R. M. of W. Co-operative Meeting

The twentieth annual meeting of the C.N.R. Union-Management Co-operative Movement, Maintenance of Way Department, held in Montreal recently was addressed by the C.N.R. Chairman and President, Mr. Gordon, and by several railway and union officials, and many items of business were discussed, with benefit to all concerned.

The twentieth annual meeting of the C.N.R. Union-Management Co-operative Movement, Maintenance of Way Department, Canadian National Rys., held in Montreal recently, was presided over by Barton Wheelwright, Chief Engineer, C.N.R., who is also Chairman of the system's Maintenance of Way Co-operative Committee. The meetings were held over two days, and were attended by the chiefs of the Brotherhood of Maintenance of Way employees, representing 21,416 men of the C.N.R. track forces.

Donald Gordon, C.M.G., Chairman and President, C.N.R., urged the delegates to the meeting to have pride in the performance of their work, saying:—"The individual is always the most important unit of any organization. The railway requires the faithfulness and skill of its employees for the welfare of the whole organization. The company's slogan of 'Courtesy and Service' can be made a reality only by the action of the individual."

Walter S. Thompson, Director of Public Relations, C.N.R., reminded the delegates that the maintenance of way men are working in little groups over 33,046 miles of C.N.R. track, the greatest railway network in existence and sufficient to encircle the earth at its equator. Of this, 24,178 miles is main line or first track.

B. L. Daly, a member of the C.N.R. board of directors and representative of the employees in general, said that the maintenance of way employees had been in the forefront of railway workers in North America in realizing the advantages of the union-management co-operative movement.

Mr. Wheelwright welcomed union and management delegates from various parts of Canada and the United States. He reported that the Movement had reviewed 1,476 suggestions received from the men during 1949, of which 883 were adopted, 340 dropped, 35 deferred and 218 pending. These included improvements to tools; improving housing conditions; conservation, care and distribution of materials; improvement, care and operation of track motor and hand cars; better methods of performing work; safety; maintenance of way rules; relations with the public; first aid and treatment; education and training of employees; fire prevention; betterments to appliances and work equipment; and 17 miscellaneous categories. Mr. Wheelwright also said that since 1930, a total of 28,826 items were discussed, of which 72.6% were proposed by employee representatives.

W. H. Crampton, General Chairman, Brotherhood of Maintenance of Way Employees, Ottawa, stated the C.N.R.'s co-operative movement had been of great benefit to the men and to the railway, and that he would continue to support it.

F. L. Noakes, of Detroit, who represented T. C. Carroll, President of the Brotherhood of Maintenance of Way Employees, said the co-operative movement on the Canadian National was one of the most active institutions he had found on American railroads. "It is warm and human, and a model of its kind." Other speakers included S. F. Dingle, Vice President, Operation; A. A. Gardiner, General Passenger Traffic Manager; E. A. Bromley, Vice President, Purchases and Stores; F. P. Donovan, General Chairman, B.M. of W.E., Winnipeg, and W. Aspinall, Vice President, B.M. of W.E., Winnipeg.

Railway Freight Traffic

Revenue freight loaded on Canadian railways and received by them from foreign connections in February, 1950, 1949 and 1948, was:—

Province	Feb. 1950	Feb. 1949	Feb. 1948
Newfoundland	35,531		
Prince Edward Island	28,778	24,543	24,092
Nova Scotia	772,088	726,654	682,273
New Brunswick	398,753	454,314	520,776
Quebec	1,576,454	1,795,813	1,965,589
Ontario	4,302,399	5,142,869	5,448,307
Manitoba	357,486	391,747	419,765
Saskatchewan	597,461	707,883	695,806
Alberta	1,080,373	1,027,585	824,271
British Columbia	657,327	719,249	707,432
Total for Canada	9,806,650	10,990,657	11,288,311

The products were as follows, in tons:—

Agricultural	1,499,999	1,856,053	2,015,273
Animal	161,449	164,831	214,820
Mine	3,567,458	3,687,399	3,471,955
Forest	1,249,665	1,716,767	1,876,559
Manufacturers & Miscellaneous	3,328,079	3,565,607	3,709,704
Grand Total	9,806,650	19,990,657	11,288,311

The total revenue freight handled by Canadian railways in February this year was down 1,184,007 tons, or 10.8%, from the total handled in February last year, and decreased to an even greater extent from the traffic in February, 1948. Volume was reduced in February this year by weather conditions in Western Canada and by the coal mining strikes in the United States. Loadings were lighter for February this year in the agricultural products group. There was a decrease of from 756,780 tons in February, 1949, to 455,211 tons in the month this year in the loading of wheat, and decreases were recorded also in barley, rye and flaxseed.



Delegates at the Twentieth Annual Meeting of the C.N.R. Union-Management Co-operative Movement, Maintenance of Way Department, at Montreal.

The photograph from which the above illustration was prepared was taken in the boardroom of the C.N.R. headquarters building. Seated right to left, appear B. L. Daly, a member of the C.N.R. board of directors; F. P. Donovan, General Chairman, Brotherhood of Maintenance of Way Employees, Winnipeg; B. Wheelwright, Chief Engineer, C.N.R., and Chairman of the System Maintenance of Way Co-operative Committee; E. Ackerman, General Secretary, Co-operative Movement, and W. Aspinall, Vice President, B.B. of W.E., Winnipeg.

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Rolling Stock Orders and Deliveries

Canadian National Rys.—The C.N.R. has ordered 28 50-ton air dump cars of 30 cu. yd. capacity from The Eastern Car Co., Ltd.

The C.N.R. has ordered 100 70-ton covered hopper cars from Canadian Car and Foundry Co., Ltd., and has also ordered from the same builder six narrow gauge sleeping cars for Newfoundland lines.

The C.N.R. has ordered 50 baggage cars from National Steel Car Corp., Ltd.

To July 20 the C.N.R. received one first class passenger car from Canadian Car and Foundry Co., Ltd., on an order for 25, and has also received from National Steel Car Corp., Ltd., 45 baggage cars on a preceding order for 50, 13 having been delivered in the period June 19-July 18.

Advice received as this issue was closing for the press was that the C.N.R. has ordered 22 115-ton, 800 h.p. Diesel-electric switching locomotives from General Motors Diesel, Ltd., London, Ont.

The C.N.R. has received from the builder, General Electric Co., three 1,200 h.p. pantograph equipped electric locomotives for commuter train service between Central Station, Montreal, and Mount Royal, Val Royal, Cartierville, and St. Eustache, and Ahuntsic and Montreal North. The locomotive cab is equipped with two sets of controls, for operation in either direction, and cars can be coupled at either end of the locomotive.

The first class passenger car received from Canadian Car and Foundry Co., Ltd., was placed in service on the morning of July 18, when it left Central Station, Montreal, on a run to Ottawa. Prior to entering service, the new car was inspected by Donald Gordon, Chairman and President, S. F. Dingle, Vice President, Operation, O. A. Trudeau, Assistant General Passenger Traffic Manager, and other C.N.R. officers. The car has many notable innovations, and is divided into two compartments, one for non-smokers, seating 32, and the other for smokers, seating 28. Seats are of the "Sleepy Hollow" type, arranged to recline and revolve, and are upholstered with soft rubber cushions.

In regard to the air dump cars ordered from The Eastern Car Co., Ltd., they will be 40 ft. long, and are described as the simplest of their type yet devised by designers. They will be arranged to dump to either side, with the dumping apparatus, an air system operated by four cylinders, powered by the compressed air in the trainline. They will have reserve tanks holding sufficient compressed air to dump and replace the body of a car cut out of the train. The car is dumped by pulling of a lever, and for safety purposes the car is arranged to dump to the side away from the operator.



The First of Twenty 16,000-gal. Tank Cars Being Supplied the Canadian Pacific by Canadian Car and Foundry Co., Ltd.

This car, the first tank car built for the C.P.R. since 1922, holds 6,000 gallons more than the next largest one in C.P.R. service. These new cars are for use in handling Diesel oil to points on the Schreiber Division and on other divisions to employ Diesel-electric locomotives.

Announcement at mid-July by E. A. Bromley, Vice President, Purchases and Stores, C.N.R. was that an order had been placed with Canadian Car and Foundry Co., Ltd., for six self-propelled coaches and 12 trailers for operation on the C.N.R. electric lines into Central Station, Montreal, serving communities between Montreal and Ste. Eustache as well as Ahuntsic, Montreal North and Cartierville.

The new cars will operate in multiples of three, to make six trains. The first unit of each will have an engineer's cab in front, and overhead pantographs from which the power will be drawn from the wires to drive the train. A second set of controls will be in the rear of each of the leading coaches, eliminating the necessity for turnabouts.

All-steel in construction and 70 feet long, the new cars will have sliding aluminum doors equipped with safety glass. The leading coach will have a capacity of 88 persons and the trailers will seat 84 passengers each. Each trailer will have a toilet, washroom and water cooler.

Seats will be of the reversible walk-over type, upholstered in soft plastic materials, and there will be an ash

tray in each. Windows will be two feet wide, with laminated safety plate glass and aluminum frames. They will have curtains of double faced plastic attached to metal rollers, and the sills will be of scar proof formica.

The cars will be electrically heated, and the lights, running down the centre of the ceiling, will provide a high intensity of illumination especially suitable for reading.

Each car is to be equipped with air brakes, and the trucks will have coil springs and shock absorbers for smooth riding. The first coach in each operating group will have both warning bells and horns.

The new self-propelled coaches will replace some of the present equipment now used on the C.N.R. electric lines. In method of operation they will be similar to the motor units which were formerly used on these lines but which were removed some years ago.

Canadian Pacific Ry.—During the period June 19-July 18, the C.P.R. received five first class passenger cars completed at Angus Shops, bringing the total received to 58 on an order for 64. Also received during the period were five 5-bedroom 10-roomette sleeping cars from Angus Shops, bringing the number received to 12 on an order for 14; five 1,500 h.p. "A" unit Diesel-electric freight locomotives and five 1,500 "B" unit Diesel-electric freight locomotives from Montreal Locomotive Works, Ltd., bringing the total received to six units of each type on an order for 20; 16 tank cars of 16,000 Imperial gallon capacity from Canadian Car and Foundry Co., Ltd., on an order for 20; one Jordan spreader and ditcher from F. H. Hopkins Co., completing an order for four of these machines, and one crane and pile driver from Browning Crane and Shovel Co., completing an order for two.

National Steel Car Corp., Ltd., is reported as in receipt of an order for 50 70-ton covered hopper cars from the C.P.R.

An accompanying illustration shows the first of 20 Diesel fuel oil tank cars, of 16,000 gall. capacity, being built for the C.P.R. by Canadian Car and Foundry Co., Ltd. The car shown was placed on display at Windsor Station, Montreal, following receipt from the builder. It measures 53 ft. 11¼ in. in length, and provides capacity for 6,000 more gallons than the next largest tank car in C.P.R. service. It was the first tank car built for the C.P.R. since 1922. It is for use primarily to transport Diesel fuel oil to points on the Schreiber Division, around the north shore of Lake Superior, which is to be completely equipped with Diesel-electric locomotives for freight service by early autumn. The tanks of the new cars are 48 ft. long and 100 in. in diameter. The cars will also be used for the shipment of Diesel fuel oil to other points on C.P.R. lines where Diesel-electric locomotives are placed in operation.

A press report of July 27 records that the C.P.R. has ordered 700 50-ton, all-steel box cars from National Steel Car Corp., Ltd., and 300 similar cars from The Eastern Car Co., Ltd.

Commissioner Chase on 3.4% Rate Increase

Order 74,512 of the Board of Transport Commissioners for Canada, which had the effect of increasing from 16% to 20% the cumulative freight rate increase which the Canadian railways were authorized to make effective, was recorded in our June issue, pg. 311, and the judgment written by Assistant Chief Commissioner Wardrope of the Board, on which this order was based, was published in our July issue, beginning on pg. 371, it having been noted that a separate judgment had been written by Commissioner Chase. The cumulative total of freight rate increases authorized had been brought to 16% by the Board's order 74,034 of March 1 last, and the railways had claimed that judgment on which that order had been based had not given full recognition to the figures recording Canadian Pacific Ry. financial requirements. Both Assistant Chief Commissioner Wardrope and Commissioner Chase found the railways' contention well founded, and the additional 3.4% increase in rates, to bring the cumulative total of increases from 16% to 20%, was ordered. Readers will recall that the railways originally received an increase of 21% in their freight rates, which the Board, with a new chief commissioner, later found should have been one of 15% only. Then, on further application from the Railway Association, in 1948, an interim increase of 8% was granted. The order of March 1, 1950, replaced the 8% increase by one of 16%, and the order of May 25 made the authorized increase one of 20%, thus granting in full the Railway Association of Canada application of 1948.

A feature of the judgment by Commissioner Chase was the inclusion of a table furnishing, for the year 1949, a restatement of C.P.R. rail earnings arranged to show the amounts of the deficiency resulting from different interpretations of the formula employed by the Board of Transport Commissioners in its judgments of March 30, 1948, and September 20, 1949. This table is reproduced herewith, and it is seen that while the C.P.R. itself figured its revenue deficiency as over $36 million, the provinces opposing the rate increase application figured it as $29,972,434. Commissioner Chase points out that if the 16% rate increase had been effective throughout 1949, additional revenue of $22,361,839 would have been earned by the C.P.R., and that if a 20% increase had been effective throughout 1949, additional revenue would have been $28,954,422, an amount short by $1,017,278 of that required to meet the revenue deficiency as arrived at by the respondents.

In his judgment, Commissioner Chase stated as in the following.

Pursuant to P.C. 4678, dated October 12, 1948, the Board reviewed the Judgment in the 21% case dated March 30, 1948, together with the application of the Railway Association of Canada dated July 27, 1948, for further increase in freight rates of 20%. With respect to the review the Chief Commissioner in a Judgment dated September 20, 1948, and for reasons given decided that the increase should have been 15% instead of 21%, and that with respect to the application for a further increase of 20% an interim increase of 8% should be granted, final determination to be subject to the outcome of certain studies, investigations, etc.

With that Judgment I concurred, but having regard to what has since transpired and the apparent misunderstanding prevailing in the minds of many people, I feel it necessary to clarify a few of the points involved before dealing with the latest application of the Railway Association of Canada for an Order changing, altering or varying Board's Order No. 74034, dated March 1, 1950.

In the 21% case the then Chief Commissioner fixed the deficiency in revenue of the Canadian Pacific Railway for the year 1947 at $30,345,000. (See page 66 Judgment dated March 30, 1948). The Chief Commissioner in his Judgment of September 20, 1949. at page 7, fixed the deficiency at $21,405,923, and on that basis decided that the increase should have been 15% instead of 21%.

The point to be remembered is that the figures set forth above relate entirely and exclusively to the operations of the Canadian Pacific Railway for the year **1947.**

Turning now to the interim increase of 8%. Subsequent to the award of 21%, a general increase in wage rates of the railway employees was granted and made retroactive in its effect. This distorted the revenue position of the Canadian Pacific Railway for the year 1948 as compared with the year 1947 and is the reason why the 21%

increase was not actually reduced to 15%. The fact is that the 21% was allowed to remain in effect and an additional general increase of 8% plus 8 cents per ton on coal and coke was authorized. The other alternative would have been to actually reduce the 21% to 15% and then in the light of the requirements based on the operations for the 1948 actual, and prospectively for the year 1949 to permit an increase of approximately 14%. The end result would be the same but only after a considerable amount of inconvenience and confusion.

By Judgment dated March 1, 1950, a 16% increase was substituted in lieu of the 8%, plus an increase on coal and coke of fifteen cents per ton in lieu of 8 cents per ton, and it is this Judgment which the Railway Association of Canada desires to have varied so as to give effect to the full 20% increase applied for under date of July 27, 1948. This in addition to the 21% made effective pursuant to Order No. 70425, dated March 30, 1948.

Revenue Deficiencies of C.P.R. in 1949 before Rate Increase, according to Different Interpretations of Original and Revised Formulas of Board of Transport Commissioners.

	Board's Formula 21% case—as per page 66 of Judgment March 30, 1948	Board's Revised Formula Review of 20% case—as per page 7 of Judgment, September 20, 1949	C.P.R.'s interpretation of Revised Formula as per Exhibit 49-164	Respondent's interpretation of Revised Formula
	$	$	$	$
Net Railway Operating Income without adjustment	25,102,802	25,102,802	25,102,802	25,102,802
DEDUCT: additional depreciation charged on Company's books due to increased user rates in 1948	. .	3,905,833		3,905,833
Actual Net Railway Operating Income as per Company's books	25,102,802	21,196,969		21,196,969
ADDITION: Overstatement of Depreciation	3,556,695			
	28,659,497			
DEDUCT: Fixed Charges	11,718,579[1]	11,178,579	11,718,579	11,718,579
	16,940,918	9,478,390	13,384,223	9,478,390
Income Tax	5,929,321[2]	3,317,437[2]	4,684,478[2]	565,000[3]
Net Railway Operating Income after Income Tax and Fixed Charges	11,011,597	6,160,953	8,699,745	8,913,390
ADDITIONS: Overstatement of Depreciation	. . .	7,462,528	3,556,695	7,462,528
Income available for Dividends and Surplus	11,011,597	13,623,481	12,256,440	16,375,918
DEDUCT: Requirements Dividends	20,623,000	20,623,000	20,623,000	20,623,000
Allowance for Surplus	15,235,000	15,235,000	15,235,000	15,235,000
	35,858,000	35,858,000	35,858,000	35,858,000
Deficiency	24,846,403	22,234,519	23,601,560	19,482,082
Allowance for Applicable Income Tax (35/65)	13,378,833	11,972,433	12,708,532	10,490,352
Total Revenue Deficiency	38,225,236	34,206,952	36,310,092	29,972,434

[1] Fixed Charges in 21% Judgment of March 30, 1948, were charged in full to rail operations but in the above re-statement the apportionment basis made in the September 20, 1949, Judgment was adopted for uniformity purposes.

[2] Income Tax calculated at rate of 35% in accordance with September 20, 1949, Judgment, page 7.

[3] Income Tax actually accrued by the Company for 1949.

Final hearing in this matter was held on April 17th, 1950, and after carefully considering all the evidence and Exhibits submitted to us my conclusion is as follows:—

On page 14 of the printed copy of Judgment dated March 1st, 1950, under the heading of "Summarized Submissions" the following appears:—"In light of the foregoing statements, and as clarification of the contentions advanced by the Canadian Pacific Railway and respondents, I believe that a comparative statement would be helpful. The accompanying table sets forth, for the year 1949, a restatement of rail earnings for the purpose of showing deficiencies resulting from the different interpretations of the Board's formula in the March 30th, 1948, and September 20th, 1949, Judgments. For the reasons heretofore given I am of the opinion that the submission of respondents as indicated in the comparative statement is in accordance with the expressed views of the Board. **The revenue deficiency is thereby indicated to be $29,972,434 as compared to the Railway's claim of $36,310,092."** (Emphasis by Commissioner Chase)

During the Hearing of April 17th, it was stated by Mr. Carson for the Canadian Pacific Railway when referring to the comparative statement set forth.: "The fourth column gives the respondents' interpretation of the revised formula, was adopted by the Board, and shows the total revenue deficiency, $29,972,434.00." (See Transcript Page 6099.)

Upon further adjustment by the Board as shown on Page 15 of the printed copy of the Judgment the final deficiency arrived at was $29,971,700.

No evidence has been submitted which would cause me to believe that, based on the Board's formula, and the actual figures relating to revenues and expenses of the C.P.R. for the year 1949, the deficiency for that year is less than the above amount, namely, $29,971,700.00.

Exhibit 49-211 shows that if the 16% increase had been in effect for the full year 1949 plus 15c per ton on coal and coke, the additional revenue would have amounted to $22,361,839.00 and that if a 20% increase had been in effect for the full year 1949, the additional revenue would have amounted to $28,954,422, still leaving the C.P.R. short, $1,017,278 of the amount necessary to meet the deficiency.

As in my opinion the Applicants have proven the necessity for the full increase of 20%, I concur with the Judgment of the Assistant Chief Commissioner.

Birthdays of Transportation Men

August 16-September 15

Many happy returns of the day to:—

B. A. ALLEN, Manager for British Columbia, Canadian National Rys., Vancouver, born at Kentville, N.S., Sept. 6, 1887.

W. J. ANDERSON, formerly Division Freight Agent, Canadian Pacific Ry., Regina, Sask., now at London, Ont., born at Fergus, Ont., Aug. 22, 1879.

H. D. ANGUS, Supervisor of Freight Claims Prevention, C.N.R., Toronto, born at Wingham, Ont., Sept. 5, 1900.

P. E. AYRHART, Manager, Department of Labour Relations, C.N.R., Montreal, born at Mountain View, Ont., August 16, 1891.

T. B. BALLANTYNE, assigned to special engineering duties throughout Ontario, C.P.R., born at Galt, Ont., Sept. 10, 1885.

H. R. BLACKWOOD, Assistant Superintendent, C.N.R., Edmonton, Alta., born in County Down, Ireland, Sept. 11, 1891.

E. G. BOWIE, Superintendent, Motive Power and Car Equipment, Western Lines, C.P.R., Winnipeg, born there, Aug. 20, 1892.

W. K. CAIN, Travelling Passenger Agent, C.N.R., Winnipeg, born at Vancouver, Sept. 4, 1898.

A. E. H. CHESLEY, formerly Assistant Treasurer, C.P.R., Montreal, now of Dorval, Que., born at Bear River, near Annapolis Royal, N.S., Aug. 27, 1877.

H. T. COLEMAN, Assistant to the Manager, Department of Public Relations, C.P.R., Montreal, born at Sudbury, Ont., August 29, 1906.

W. P. CRAWFORD, Locomotive Foreman, C.P.R., Kenora, Ont., born at Brandon, Man., Sept. 10, 1890.

A. I. CURTIS, General Agent, Passenger Dept., C.N.R., Victoria, B.C., born at London, England, Aug. 21, 1899.

ERNEST CUTTS, Assistant Superintendent, C.N.R., Melville, Sask., born at Port Arthur, Ont., Aug. 16, 1904.

R. A. DeVILLERS, Division Engineer, Levis Division, C.N.R., Levis, Que., born at Victoriaville, Que., August 18, 1919.

G. E. DICKEY, Chief Dispatcher, C.N.R., Hornepayne, Ont., born at Callander, Ont., Aug. 21, 1898.

E. W. DREWE, General Freight Agent, C.P.R., Montreal, born at Strathroy, Ont., Aug. 26, 1897.

C. D. EDSFORTH, Assistant General Traffic Manager, C.P.R., Montreal, born at Accrington, England, September 10, 1905.

G. E. ELLIS, Assistant Superintendent, C.N.R., Toronto, born there, Sept. 15, 1893.

I. S. FAIRTY, K.C., General Counsel, Toronto Transportation Commission, born at Toronto, Sept. 9, 1884.

WILLIAM FITZPATRICK, Superintendent, Newfoundland Lines, C.N.R., St. John's, Nfld., born at Spaniard's Bay, Nfld., Aug. 18, 1892.

H. G. FOREMAN, formerly Assistant Treasurer, C.N.R., Montreal, born at Toronto, Sept. 2, 1882.

W. J. T. GAGNON, C.B.E., B.A., a director, C.N.R. Co., born at Montreal, Sept. 5, 1898.

A. S. GALEY, General Storekeeper, Eastern Lines, C.P.R., Montreal, born at Hampton, N.B., Sept. 2, 1885.

J. P. GORMAN, Ticket Clerk, C.N.R., Prince Rupert, B.C., born at Winnipeg, Man., September 6, 1915.

H. C. GUNN, Terminal Superintendent, C.N.R., Saint John, N.B., born at Belmont, N.S., Sept. 2, 1895.

J. L. HETLAND, LL.B., Vice President and General Counsel, Minneapolis, St. Paul and Sault Ste. Marie Rd., born at Ada, Minn., Sept. 5, 1900.

J. G. INGLIS, Assistant Manager of Equip-

ment, Toronto Transportation Commission, born at Atwood, Ont., September 8, 1899.

C. E. JEFFERSON, Vice President, Traffic, C.P.R., Montreal, born at Boston, Mass., Sept. 6, 1889.

R. E. KENDRICK, Vice President and Secretary, Napierville Jct. Ry. Co., Montreal, born there, Aug. 29, 1894.

J. J. KERR, Sales and Public Relations Representative, American Airline, Inc., Toronto, born there, Aug. 30, 1920.

W. A. KIRKPATRICK, formerly Chief of Car Service, C.N.R., Montreal, born at West Lorne, Ont., Aug. 28, 1883.

EDWARD LAIT, Assistant Superintendent, C.N.R., Winnipeg, born at Warwick, England, Aug. 16, 1889.

J. A. LAMBERT, Superintendent, Laurentian Division, C.N.R., Quebec, Que., born at Sherbrooke, Que., Aug. 22, 1898

A. J. LINFOOT, General Agent, Canada Steamship Lines, Ltd., Fort William, Ont., born at London, England, Sept. 12, 1895.

E. R. LOGIE, Chief Engineer, Central Region, C.N.R., Toronto, born at Chatham, N.B., Aug. 16, 1886.

ISAAC LUCAS, Superintendent of Transportation. C.N.R., Saskatoon, Sask., born in Cheshire, England, September 2, 1897.

ALBERT McAVOY, District Storekeeper, Ontario District, C.P.R., Toronto, born in Ireland, Sept. 9, 1895.

ALEX McINTYRE, Chief Dispatcher, C.N.R., Prince Albert, Sask., born at Appin, Ont., Sept. 15, 1888.

J. G. MacLACHLAN, M.E.I.C., Manager, Hudson Bay Ry., C.N.R., The Pas, Man., born at Lochaber Bay, Que., Sept. 4, 1886.

J. R. McMILLAN, General Superintendent, Manitoba District, C.N.R., Winnipeg, born there, Sept. 1, 1905

WILLIAM MANSON, Vice President, Pacific Region, C.P.R., Vancouver, born at Lethbridge, Alta., Aug. 28, 1892

W. A. MATHER, President, C.P.R., Montreal, born at Oshawa, Ont., Sept. 12, 1885.

H. R. NAYLOR, Works Manager, Angus Shops, C.P.R., Montreal, born at Hull, England, Aug. 30, 1885

JOHN ORR, Freight Agent, C.N.R., Montreal Wharf, born in Wishaw, Scotland, Aug. 27, 1890

J. F. PIKE, Superintendent of Motive Power, Newfoundland Lines, C.N.R., St. John's, Nfld., born at Carbonear, Nfld., Aug. 31, 1891

A. W. RICHMOND, Assistant Auditor of Claims, C.P.R., Montreal, born at Ilford, Essex, England, Aug. 19, 1892.

LIEUT.-COL. BLAIR RIPLEY, C.B.E., D.S.O., M.E.I.C., formerly Engineer, Maintenance of Way, Eastern Lines, C.P.R., Toronto, now at Victoria, B.C., born at Oxford, N.S., Aug. 29, 1880.

B. W. ROBERTS. O.B.E., Vice President, Purchases and Stores, C.P.R., Montreal, born at Winnipeg, Man., Aug. 17, 1890.

W. J. ROBINSON, Assistant Freight Traffic Manager, Canada Steamship Lines, Ltd., Toronto, born at Hamilton, Ont., Sept. 5, 1887

C. A. SKOG, Vice President and General Manager, C.N.R.-G.T.W.R., Detroit, Mich., born at Badger Mills, Wis., Sept. 5, 1877.

A. E. TENNANT, Roadmaster, C.N.R., Hamilton, Ont., born at Parry Sound, Ont., Sept. 12, 1908.

R. BROCK THOMSON, Vice President and Secretary, Canada Steamship Lines Ltd., born at Montreal, September 5, 1886.

C. E. TOWLE, Superintendent, Bruce Division, C.P.R., Toronto, born on Sept. 12, 1900.

S. L. TRUEMAN, Local Manager, C.N. Steamships, Saint John, N.B., born there, Sept. 6, 1895

AITKEN WALKER, Freight Traffic Manager, Eastern Region, C.P.R., Toronto, born at Glasgow, Scotland, Aug. 23, 1885.

H. F. WALKER, Superintendent, Personnel, C.N.R., Montreal, born at Picton, Ont., Aug. 28, 1895.

G. E. WALTON, Canadian Freight Agent, Lehigh Valley Rd., Toronto, born at Stratford, Ont., Sept. 8, 1896.

W. H. M. WARDROPE, Assistant Chief Commissioner, Board of Transport Commissioners for Canada, born at Hamilton, Ont., Sept. 6, 1896.

H. E. WEYMAN, Vice President and General Manager, Levis Transport Co., Levis, Que., born at Guildford, England, Aug. 27, 1883

F. G. WOOD, Manager, New Zealand Shipping Co., Ltd., Montreal, born at Toronto, Sept. 15, 1890

R. H. WRAY, Superintendent, Calgary Transit System, born at Irricana, Alta., August 22, 1913.

Car Loading Uptrend Continues

During recent weeks, the trend in railway freight traffic has evidently been upward, and on the basis of car loadings the rate of increase was somewhat more pronounced in the four weeks ended July 8 than in the preceding four weeks. The number of cars loaded with revenue freight on Canadian railways in the four weeks ended July 8 this year was 313,703, while the number loaded in the corresponding weeks last year was 284,837; these figures, and those in the accompanying table, are furnished by the Dominion Bureau of Statistics, Transportation Division, with the division between Eastern and Western Canada at Fort William, Ont. There was an increase in the loading in each of the four weeks ended July 8 this year, with an increase in grain loadings in three weeks of the four. Substantial increases in the loadings of pulpwood, and lumber, lath and shingles, were recorded in each of the four weeks this year. Over a long period, pulpwood loadings were considerably below those of last year, but, as noted in our July issue, an increase in loadings of this commodity was recorded in the week ending June 10, and loadings in each of the four following weeks were well above those in the corresponding 1949 weeks.

Week Ended June 17

Total loadings in the week ended June 17 this year were 79,919 cars, compared with 74,493 in the corresponding 1949 week. While grain loadings decreased from 5,454 cars in the 1949 week to 5,292 cars, live stock loadings were up from 1,410 cars to 1,567, and coal loadings from 5,494 cars to 5,603. Pulpwood loadings increased from 3,240 cars in the week last year to 4,076, and loadings of lumber, lath and shingles from 4,081 cars to 5,636. Loadings of miscellaneous freight were up from 5,826 cars in the week last year to 6,187, but those of merchandise, l.c.l., came down from 18,423 cars to 17,836. Reflecting continued development in the Prairie Provinces oilfields, loadings of crude oil were up from 902 cars in the week last year to 1,324 cars, and substantial increases in the loading of this commodity were recorded in each of the following three weeks.

Week Ended June 24

Total loadings in the week ended

Week Ended:—

	June 17			June 24			July 1			July 8		
	All Can.	East. Can.	West. Can.	All Can.	East. Can.	West. Can.	All Can.	East. Can.	West. Can.	All Can.	East. Can.	West. Can.
Grain	5,292	1,743	3,549	6,242	1,708	4,534	5,850	1,432	4,418	5,236	1,203	4,033
Grain Products	2,247	1,202	1,045	2,258	1,199	1,059	2,065	1,206	859	2,017	1,080	937
Hay and Straw	86	58	28	70	52	18	42	18	24	66	27	39
Fruits, fresh	92	78	14	75	71	4	61	45	16	101	92	9
Vegetables, fresh or green	268	243	25	200	168	32	213	176	37	240	181	59
Other Agricultural Products	148	111	37	144	115	29	85	58	27	102	78	24
Live Stock	1,567	562	1,005	1,501	532	969	1,398	521	877	1,468	613	855
Butter, Cheese, Eggs	142	47	95	127	53	74	140	75	65	162	78	84
Fresh Meats & Packing House Products (edible)	408	168	240	407	151	256	380	141	239	437	141	296
Other Packing House Products	57	43	14	46	33	13	40	19	21	29	9	20
Other Animal Products	96	82	14	73	63	10	79	51	28	74	44	30
Coal	5,603	3,768	1,835	5,576	3,894	1,682	4,777	3,272	1,505	5,442	3,963	1,479
Coke	679	586	93	746	638	108	687	592	95	774	666	108
Ores and Concentrates	3,688	2,464	1,224	4,682	2,826	1,856	3,277	2,446	831	3,646	2,557	1,089
Base Bullion, Matte, Pig & Ingot (non-ferrous metals)	556	395	161	490	364	126	392	298	94	441	307	134
Sand, Stone, Gravel, Plaster, Lime, Brick, Cement, Sewer pipe, Tile	5,435	4,033	1,402	5,674	4,051	1,623	4,846	3,455	1,391	5,423	3,929	1,494
Other Mine Products	2,130	1,883	247	2,124	1,941	183	1,688	1,485	203	1,794	1,569	225
Logs, Piling, Cordwood	1,343	344	999	1,221	279	942	1,076	226	850	948	247	701
Pulpwood	4,076	3,734	342	4,695	4,312	383	3,872	3,616	256	4,451	4,158	293
Lumber, Lath, Shingles	5,636	3,440	2,196	5,611	3,543	2,068	5,054	3,053	2,001	5,680	3,596	2,084
Other Forest Products	552	390	162	649	350	299	700	372	328	645	347	298
Gasoline, Petroleum Oils & Pdts.	4,520	3,187	1,333	4,364	3,053	1,311	3,950	2,839	1,111	4,723	3,388	1,335
Crude Oil	1,324	5	1,319	1,330	4	1,326	1,302	5	1,297	1,474	8	1,466
Sugar	385	263	122	352	251	101	370	251	119	515	320	195
Iron & Steel Pdts. (manufactured)	1,897	1,686	211	1,923	1,749	174	1,807	1,658	149	2,021	1,802	219
Implements, Tractors, Machinery, Boilers	774	601	173	801	607	194	659	475	184	674	525	149
Autos, Trucks and Parts	1,805	1,611	194	1,776	1,619	157	1,648	1,529	119	1,634	1,575	59
Fertilizers	359	192	167	338	181	157	430	175	255	368	216	152
Woodpulp and Paper	4,267	3,727	540	4,160	3,634	526	3,789	3,275	514	4,015	3,516	499
Canned Food Products	464	353	111	380	271	109	389	270	119	609	430	179
Other Products of Manufacturers and Miscellaneous	6,187	4,924	1,263	6,352	4,866	1,486	5,312	4,142	1,170	6,255	4,789	1,466
Merchandise, L.C.L.	17,836	12,952	4,884	17,813	12,920	4,893	16,313	11,999	4,314	17,429	12,723	4,706
Total Revenue Cars Loaded	79,919	54,875	25,044	82,200	55,498	26,702	72,691	49,175	23,516	78,893	54,177	24,716
In corresponding week of 1949	74,493	50,085	24,408	75,352	49,613	25,739	62,056	40,101	21,955	72,936	50,464	22,472
Received from Connections	32,618	29,616	3,002	33,676	30,729	2,947	32 028	30,228	2,800	28,401	25,640	2,761

June 24 this year were 82,200 cars, compared with 75,352 cars in the corresponding 1949 week. Grain loadings increased from 5,793 cars in the 1949 week to 6,242, and live stock loadings from 1,226 cars to 1,501. Coal loadings were up from 5,410 cars to 5,576; loadings of pulpwood from 3,219 cars to 4,695, and loadings of lumber, etc., from 4,182 cars to 5,611. Loadings of miscellaneous freight were up from 5,703 cars in the week last year to 6,352, but those of merchandise, l.c.l., were down from 18,468 cars to 17,813.

Week Ended July 1

No doubt because of the fact that the July 1 holiday this year fell on a Saturday, a day on which commercial and industrial activity is curtailed to considerable extent in any event, car loadings were not decreased to the same extent in the week ended July 1 this year as they were in the holiday week last year, with the result that total loadings were increased by large margin, viz., from 62,056 cars in the week last year to 72,691 cars in the week this year. Grain loadings were up from 4,815 cars in the 1949 week to 5,850 cars, and live stock loadings from 1,130 cars to 1,398 cars. Coal loadings increased from 4,157 cars to 4,777. Loadings of pulpwood were up from 2,419 cars in the week last year to 3,872 cars, and those of lumber, etc., from 3,412 cars to 5,054. Loadings of miscellaneous freight increased from 4,804 cars in the 1949 week to 5,312, and those of merchandise, l.c.l., from 15,099 cars to 16,313.

Week Ended July 8

Total loadings in the week ended July 8 this year were 78,893 cars, compared with 72,936 in the corresponding 1949 week. Grain loadings increased from 3,403 cars in the 1949 week to 5,236 cars, but live stock loadings declined from 1,672 cars to 1,468 cars. Coal loadings increased from 5,274 cars to 5,442. Pulpwood loadings were up from 3,807 cars in the week last year to 4,451 cars, and those of lumber, etc., from 3,757 cars to 5,680. Miscellaneous freight loadings increased from 5,659 cars to 6,255, but loadings of merchandise, l.c.l., decreased from 18,947 cars in the week last year to 17,429 cars.

Cumulative Totals of Loadings

The cumulative total of cars loaded with revenue freight on Canadian railways to July 8 this year was 1,946,057, compared with 1,948,643 in the corresponding part of 1949 and with 2,010,863 in the corresponding part of 1948, the corresponding figures for Eastern Canada being 1,314,141, 1,290,414 and 1,368,729, and, for Western Canada, 631,916, 658,229 and 642,134.

The cumulative total of grain loadings to July 8 in all Canada was 138,934 cars, compared with 166,215 in the corresponding part of 1949 and with 134,078 in the correspoding part of 1948, the corresponding figures for the cumulative totals of live stock loadings being 41,228, 40,646 and 52,182; of coal loadings, 159,458, 146,863 and 149,305; of pulpwood loadings, 84,751, 109,348 and 158,987; of loadings of lumber, lath and shingles, 103,088, 85,764 and 99,816; of loadings of miscellaneous freight 142,849, 137,842 and 146,024; of loadings of merchandise, l.c.l., 451,500, 484,844 and 491,010.

Cars Received from Connections

To July 8 this year, the Canadian railways received 828,085 cars of revenue freight from connections, compared with 844,062 in the corresponding part of 1949 and with 945,537 in the corresponding part of 1948.

Mainly about Railway People

Gerald Hiam, who was recently appointed General Freight Traffic Manager, C.P.R., Montreal, was born there December 14, 1888, and entered the company's service on June 6, 1904, as clerk, Montreal. Subsequent to serving with the Canadian Northern Ry. and Cuba Rd., 1907-1908, he re-entered C.P.R. employ in September, 1908, as clerk, Montreal, and since has been:—January, 1914, Travelling Freight Agent, Toronto; July, 1914, District Freight Agent, Fort William, Ont.; 1915-1919, Lieutenant, Canadian Expeditionary Force, overseas; 1919, District Freight Agent, Cleveland, Ohio; 1926, Division Freight Agent, Saint John, N.B.; 1928, Assistant General Freight Agent, Eastern Lines, Montreal; 1930, Assistant Freight Traffic Manager, Eastern Lines, Montreal; 1948, Freight Traffic Manager, Montreal, having systemwide jurisdiction for Canada and the U.S.A. in the supervision and solicitation and handling of freight and of sales and service.

George C. Martin, who retired in 1936 from the position of General Traffic Manager, Toronto, Hamilton and Buffalo Ry., died on July 4 in hospital at Hamilton, Ont., following a short illness. He was born at Creemore, Ont., Jan. 2, 1866, and commenced his railway career as assistant to agents, Northern and Northwestern Ry., at Creemore, New Lowell and Thornbury, Ont. He was engaged as an operator on construction, Canadian Pacific Ry., near Calgary, Alta., and at Hawk Lake, Ont., in 1883, and was appointed agent and operator, Northern and Northwestern Ry., Colwell Jct., Ont., in 1884, was moved to Caledon East, Ont., in 1886, to Cardwell Jct., Ont., in 1888, and to the city ticket office, London, Ont., in 1889. He re-entered C.P.R. service in 1891 as relieving agent, and after doing station work, station auditing, dispatching, etc., for several years, he left railway service for one year, returning to the service as clerk in the



G. L. Plow,
Engineer of Track, C.N.R.

Grand Trunk ticket office, Union Station, Toronto, and in 1897 entered Toronto, Hamilton & Buffalo Ry. service, since when he has been, to Oct., 1909, chief clerk, General Freight and Passenger Agent's office; Oct., 1909, to July 22, 1912, Assistant General Freight and Passenger Agent; July 23, 1912, to Aug. 8, 1918, General Freight and Passenger Agent; Aug. 9, 1918, to 1936, General Traffic Manager, all at Hamilton, Ont. Among the offices he held at various times were:—President and Life Member, Ontario Associated Boards of Trade and Chambers of Commerce; President Hamilton Board of Trade; Director, Hamilton Chamber of Commerce; Honorary President, Hamilton Traf-



Gerald Hiam,
General Freight Traffic Manager, C.P.R.

fic Club; President, local Canadian Club, President, Chedoke Golf Club; Director, Ontario Safety League; Vice President, Ontario Fire Prevention



William Stirling,
Freight Claim Agent, C.N.R., Montreal.

League. He was a member of AF and AM, the Canadian Freight Association, the Rotary Club, the Scientific Association and the Glendale Golf Club.

W. A. Mather, President, C.P.R. Co., has been elected a director of the Royal Trust Co.

G. L. Plow. B.Sc., whose appointment as Engineer of Track, C.N.R., Montreal, was recorded in our July issue, was born at St. Albans, Vt., in 1902, and began his railway career with the Central Vermont Ry. as a chainman in 1923, after securing his B.Sc. degree at McGill University. He entered C.N.R. service in 1929 as an instrumentman at Quebec, working on numerous divisions of the road until 1940, when he joined the Canadian Army. Subsequent to war service, he became Assistant Division Engineer at Quebec, Ottawa, Levis, Que., and London, Ont., General Maintenance Inspector at Montreal in 1948, and Senior Assistant Engineer at Montreal in 1949.

H. E. Porter, whose appointment as Rule Instructor, C.N.-G.T.W., Durand, Mich., U.S.A., was noted in our May issue, began his service with the Grand Trunk Western in 1921 as a brakeman. Previously a conductor there since 1928, Mr. Porter is local chairman of the Brotherhood of Railroad Trainmen at Durand.

W. W. Somers, who recently retired as General Baggage and Mail Agent, Atlantic Region, C.N.R., Moncton, N.B., was born at Moncton, February 16, 1890, and joined the company as a junior clerk in the office of the General Passenger Agent at Moncton in 1906. Subsequently he became:— 1910, clerk and stenographer, Montreal; 1914, excursion clerk, Moncton; 1928, Chief Clerk, Moncton; 1943, the position he held on retirement.

William Stirling, who was recently appointed Freight Claim Agent, C.N.R., Montreal, was born in Glasgow, Scotland, August 4, 1897, and entered the company's service as a file clerk, Freight Claim Department, at Winnipeg, in 1913. There he was made investigator in 1919, Travelling Freight Claim Agent in 1941, Chief Clerk in 1945, and District Claim Agent in 1947. In 1948 he moved to Montreal as Assistant to the General Freight Claim Agent. Mr. Stirling was on military service with the P.P.C.L.I. and R.F.C., 1915-18, and with the Veteran Guards Reserve, 1940-44, as private to captain.

J. L. Sugden, O.B.E., who was recently appointed Manager, Sleeping, Dining and Parlor Car Department, C.P.R., Montreal, was born at Zephyr, Ont., in Dec., 1888, and entered the company's express service in 1904. Subsequent to serving in the Accounting Department and the General Superintendent's Office, Toronto, he was transferred to the S., D. and P.C. Services and News Services in June, 1909, as assistant chief clerk, his subsequent appointments being:— 1909, chief clerk, Calgary, Alta.; 1910, chief clerk, Winnipeg; 1913, Inspector, Western Lines, and, later, Sleeping Car Agent, Banff, Alta., and relieving Car Agent, Car Distributor, Inspector and Agent



W. B. Salter,
whose appointment as General Manager, Toronto, Hamilton and Buffalo Ry., was recorded in our July issue, pg. 385.

in the west; 1920, Inspector, Winnipeg; 1924, Assistant to the General Superintendent, Winnipeg; 1936, acting Superintendent, Calgary; 1937, Superintendent, Calgary; 1938, Superintendent, Vancouver; and, 1942, General Superintendent.

Walter S. Thompson, C.B.E. — A press report received just as this issue was closing for the press states that Walter S. Thompson, C.B.E., Director of Public Relations, C.N.R., is to retire in October, upon attaining the age of 65.

George A. Walker, K.C., Chairman of the Board, C.P.R. Co., was the recipient of an honorary doctorate of civil law from Bishop's University, Lennoxville, Que., June 1. At the ceremony, Dr. A. R. Jewitt, Principal and Vice Chancellor, stated that Mr. Walker's degree was conferred in recognition of his fine citizenship and contributions of note to the development of Canada.

A. C. L. Warner, whose appointment as General Agent, Passenger Department, C.N.R.-Grand Trunk Western Rd., was noted in our May issue, was formerly Travelling Passenger Agent for the railroad at Cincinnati, O. He moved there after serving as City Passenger and Ticket Agent at Detroit for 26 years.

Railway Accidents

In May, according to the report of the Operating Department of the Board of Transport Commissioners for Canada, there were 189 accidents on Canadian railways, with 10 persons killed and 196 injured, and 31 accidents at level crossings, with 14 persons killed and 37 injured, a total of 220 accidents, with 24 killed and 233 injured. Of those killed, none were passengers or employees, and of those injured 28 were passengers, 154 employees and 51 others.

The highway crossing accidents by provinces were:—

Nova Scotia	1
Quebec	4
Ontario	16
Manitoba	2
Saskatchewan	1
Alberta	3
British Columbia	4
	31

Automobiles were involved in 23 accidents, motor trucks in six, a pedestrian in one and a motorcycle in one. Chief causes were driving on crossings in front of approaching trains and driving into side of trains. Twenty-one accidents occurred at unprotected crossings and 10 at protected crossings, and 21 occurred after sunrise and 10 after sunset.

Freight and Car Loadings

Railway revenue freight loadings in Canada in June were approximately 9,903,000 tons, compared with 8,383,000 tons in June last year and with 9,251,000 tons in May this year. On the basis of monthly average loadings in the years 1935-1939 being taken as 100, the index number for railway revenue freight loadings in June this year was 235.1, compared with 199 in June last year and with 218.4 in May this year.

Cars loaded with revenue freight on Canadian railways in June this year were approximately 354,000, compared with 322,000 in June last year and with 338,000 in May this year. The index number for car loadings in June this year was 171.9, compared with 156 for June last year and with 167.5 for May this year.



Avro Canada Testing Orenda Jet Engine

A "flying test bed" has been provided by removing the two outboard piston engines from a four-engined Lancaster plane while retaining the other two, and replacing the outboard units by two Orenda jet engines. Either pair of engines is capable of maintaining the plane in sustained flight.

After hundreds of hours of ground testing which is described as very successful, A. V. Roe Canada, Ltd., took aloft at mid-July, for the first time, a pair of Orenda jet engines which are among the world's most powerful turbo-jet engines, and which were designed and built to power the Avro Canada CF-100 fighter, first all-weather, long range, day-night fighter of its type. One of the accompanying illustrations is prepared from the first photograph released to show the flying test bed which has been provided for the testing of these Orenda engines. It was converted from a wartime Lancaster by Avro Canada, the Orenda jet engines having been fitted in the outboard engine positions of the four-engined aircraft, with the other two Rolls Royce Merlin piston engines being retained. The two Orenda jet engines are capable of carrying the aircraft in flight, by themselves, and the plane is also capable of independent sustained flight with the two Merlin piston engines. Exacting endurance, performance and range specifications have been set up for the aircraft, these being on the secret list as yet. Performance data on the Orenda jet engine remains secret as well. The flying test bed was created primarily for development flight testing of the Orenda jet engines around Toronto, but provision has been made for possible long range operation to northern air bases, for cold weather testing.

The aircraft resembles in outward appearance the Lancaster, from which it was converted. One of the huge bombers made during the war by Victory Aircraft, Avro Canada's predecessor, which never got on operational service, was selected for the job. The front and back gun turrets were removed and simple nose and tail fairings substituted. The aircraft has been winterized and other modifications have been carried out. Testing facilities consist of a test observer's instrument panel at the navigator's station in the flight compartment, automatic observers in the rear of the fuselage and a suitable control and instrumentation leads from the test engines to the panels and auto-observers. These last will be provided with equipment for photographic observation of engine performance instruments.

These air tests are to confirm the performance of the Orenda prior to installing them in the CF-100 fighter, which presently is fitted with Rolls Royce Avons. They will ensure that the performance of the engine is not only adequate but thoroughly reliable. The tests will cover a wide range of stable operation. Fuel system and



New Avro Canada Flying Test Bed (Converted Lancaster Bomber).



The First Group of R.C.A.F. Pilots, Navigators and Maintenance Crew Members to Take a Familiarization Course on the CF-100 Fighter at the Avro Canada Plant at Malton, Ont.

trust controls will be given special attention. The effects of acceleration on the aircraft will be checked as well as compressor efficiencies. Various maneuvers, such as climbs, dives and turns, will be carried out as a final proof of the ruggedness of the engine structure.

Another illustration shows the first group of R.C.A.F. pilots, navigators and maintenance crew members to take a familiarization course on the Avro Canada CF-100 fighter at the company's plant at Malton, Ont. The plane shown is the second prototype of the long range, all-weather aircraft, and the photograph from which the illustration was prepared was the first taken of this second plane. On the ramp are shown Avro Canada test pilots Don Rogers and Michael Cooper-Slipper, D.F.C., in conversation with S/L Paul Hartman and S/L Shan Badeau, Commanding Officer of the R.C.A.F. experimental proving establishment at Rockcliffe.



Major Robert Dodds, O.B.E., M.C.
Controller of Civil Aviation, Department of Transport.

Air Transport Personals

G. E. Bolton.—The appointment of Mr. Bolton as Director of Personnel, Trans-Canada Air Lines, Montreal, was recorded in our February issue, where it was noted that he is a native of Winnipeg and a graduate of the University of Manitoba with B.A. degree. He joined T.C.A. in 1945 as Industrial Counsellor in the Maintenance and Engineering Department at Winnipeg, and in September, 1947, became Personnel Manager, the position which he held prior to his recent appointment. A portrait of Mr. Bolton appears herewith.

Major Robert Dodds, O.B.E., M.C., previously Superintendent of Airways and Airports, Department of Transport, has been promoted to the position of Controller of Civil Aviation, according to recent joint announcement by the Civil Service Commission and the Minister of Transport, Mr. Chevrier. He succeeded A. D. MacLean, whose appointment to the Air Transport Board was recorded in our July issue, pg. 388.

In his capacity of Controller of Civil Aviation, Major Dodds is responsible for the control of all civil aviation coming under the Aeronautics Act of 1919, administration of the air regulations, licensing of personnel and aircraft, maintenance and operation of the Trans-Canada Airway System, and the selection, planning and construction of governmental airports. Major Dodds has been associated with the Civil Aviation Division since 1930, when it was attached to the Department of National Defence, and from 1936, when it was transferred to the then newly-created department of Transport. He has served with the Government in the capacity of Inspector, Chief Inspector and Superintendent of Airways. Associated with the survey and construction of the Trans-Canada Airways, he was largely responsible for the system as it is today. He was also one of the founders of the Trans-Canada Airlines. During World War II he was actively engaged in the construction of aerodromes under the British Empire Air Training Plan, and has since been engaged in converting them to civilian use and integrating them into the Airways System. He was awarded the O.B.E. for his contribution to the war effort. Prior to entering the Government service, Major Dodds was actively engaged in private and commercial flying. He was founder and first president of the Hamilton Aero Club and still retains life membership in that organization. He was, in turn, Manager of International Airways, Ltd., and Superintendent of Air Mail Operations of Canadian Airways, Ltd., in Eastern Canada. Born at Hamilton Beach in 1893 and educated at Hamilton and Stoney Creek, he served overseas in the First World War with the Wentworth Regiment and later as a fighter pilot with the Royal Flying Corps, and was awarded the Military Cross for "conspicuous gallantry and leadership." On return to Canada he was associated for a number of years with the Wentworth Battalion, later known as the Hamilton Light Infantry.



G. E. Bolton,
Director of Personnel, Trans-Canada Air Lines

Canada-Bermuda Fares Reduced

A. C. McKim, Vice President, Traffic, Trans-Canada Air Lines, announced in May a reduction in air travel rates between Canada and Bermuda of about 25%, through the introduction of a new 30-day excursion fare. The special low rates to Bermuda are effective between June 1 and October 31. The new excursion air rate from Montreal is $127 and from Toronto and Ottawa, $132, these comparing with regular fares higher by about $42 and $46 respectively.

Civil Aviation Operation Results

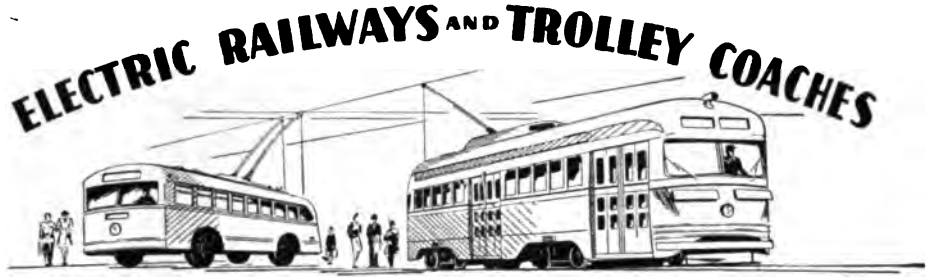
Figures furnished jointly by the Transportation Division of the Dominion Bureau of Statistics and the Economics Division of the Air Transport Board show that while the scheduled air carriers earned net operating revenue in September last year, they incurred operating deficits in October, November and December.

In September, the scheduled Canadian air carriers as a group (Canadian Pacific, Maritime Central, Trans-Canada, Central Northern and Queen Charlotte) earned total revenue of $3,497,255, compared with $2,826,450 in September, 1948 and operating expenses were $3,169,290, compared with $2,574,872 in September, 1948, with the result that there were net operating revenues of $327,965 in September last year, compared with $251,578 in the 1948 month.

In October, the scheduled carriers earned total revenue of $3,119,522, while operating expenses were $3,278,986, resulting in an operating loss of $159,464, compared with $78,995 in October, 1948.

In November last, the scheduled air carriers earned total revenue of $2,640,611, and their operating expenses were $3,259,089, resulting in an operating loss of $618,478, compared with one of $374,789 in November, 1948.

In December, the scheduled Canadian carriers earned total revenue of $2,711,133, while their total operating expenses were $2,720,608, resulting in an operating loss of $9,475, a large reduction from the loss of $482,328 incurred in December, 1948.



Trolley Coach Maintenance

By Randolph Whitfield, Supervisor of Automotive Equipment, Georgia Power Co., Atlanta, Ga.

(Editor's Note.—The following address by Mr. Whitfield was presented at a Mechanical Division session of the 1949 annual meeting of the American Transit Association, and is of particular interest on account of the rapid increase in the numbers of trolley coaches operated by transit properties throughout North America. Attention is called to the decrease in numbers of electric railway cars in operation, and to the fact that numbers of trolley coaches placed in service have been increasing at a faster rate than numbers of motor buses placed in service, and then to the fact that while plenty has been published in regard to the maintenance of both electric railway cars and motor buses, there has been a real dearth of printed information in regard to the maintenance of trolley coaches. After explaining (and showing by example) that there is such a thing as overdoing inspection and servicing, Mr. Whitfield goes into much detail as to the mileages which components may be expected to accumulate before attention is required, and then presents a typical maintenance schedule, with 200-mile, 3,000-mile and 36,000-mile intervals for specified work, which may be expected to furnish the best results. His recommendations indicate not only a thorough acquaintance with trolley coach maintenance requirements, but also careful planning in order to permit his knowledge to be imparted to others, and it is recommended that all readers interested in the maintenance of trolley coaches give careful thought to his observations and suggested procedure.)

The maintenance of trolley coaches is far from being an exact science. Not only is there an obvious lack of coordinated research and development on the subject, but there is not even any compiled information available on the actual practices in the industry today.

Individual companies have made some worthwhile progress on their own in developing the art of maintaining this vehicle, but they have done it without much help from the organized industry or from the manufacturers.

In contrast to this, a reference book of about 150 pages, together with charts and illustrations, is available for P.C.C. cars, covering the practices of the major operating companies regarding all phases of their maintenance. This excellent work was sponsored by the American Transit Association and the Transit Research Corporation. And for gas buses and Diesels, all major manufacturers have more or less elaborate instruction manuals and maintenance systems available. But insofar as I know, until recently there was not a single maintenance manual for trolley coaches, and only one manufacturer has a manual today.

The reason for this dearth of information, though not excusable, is understandable. First, the trackless trolley is relatively new—street cars became common in the 1890's and gas buses by the 1920's, but up to 1935 there were less than 500 trolley coaches in the entire United States.

Secondly, the trolley coach has always been built as a by-product of the manufacture of rail cars, gas buses, or trucks.

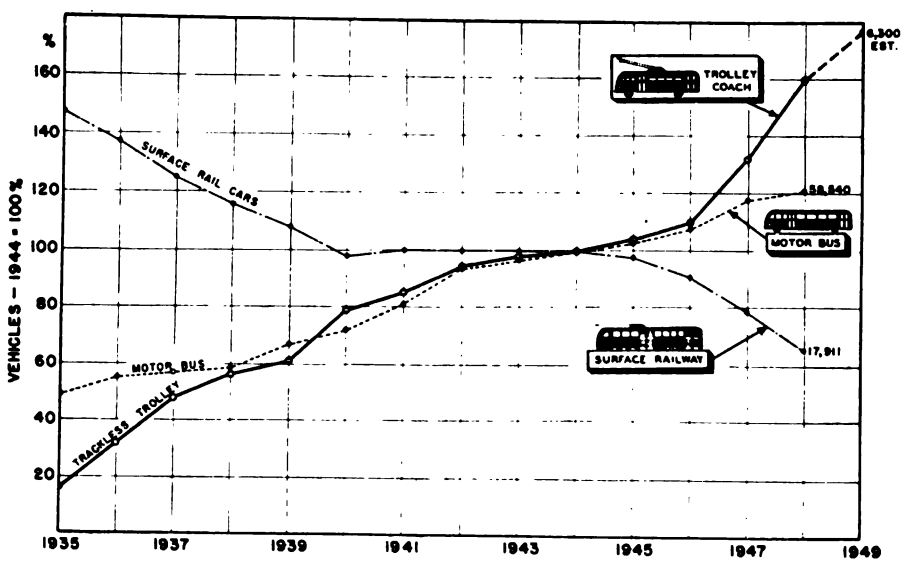
And finally, the trolley coach has usually been "stuck in" as a minor part of an existing rail or gas bus operation —and has even been shifted back and forth between the rail and bus departments within the company, the new vehicle being neither fish nor fowl.

But this very fact that the trolley coach is by nature a hybrid, puts it in an ideal position to profit by the maintenance know-how of both rail cars and buses, and by gleaning the best from each, this maintenance stepchild should eventually turn out to be a real Cinderella.

The most recent, and also the only official study on trolley coach maintenance that I have found is a report now eight years old made by a sub-committee of the American Transit Association Rolling Stock Division. Bill Wheeler headed the sub-committee and several of you gentlemen here today participated. It was an excellent work, but the members of that committee would be the first to admit that this one-page report with a six-page appendix was never intended to be a thorough or comprehensive study of trolley coach maintenance practices, even of the year 1941.

I for one think it is time that an up-to-date survey and study should be made on this subject, to make available to others the skill and knowledge learned the hard way. A manual similar to the one for P.C.C. cars referred to is needed, and would be a great help, but there is another possible approach that should be even more fruitful.

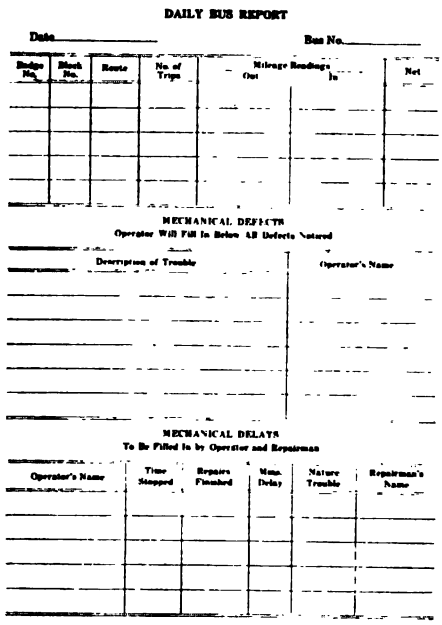
It is to form a committee composed of a maintenance engineer representing the American Transit Association, and a top engineer from each of the major component manufacturers, such as electrical, current collection, axles, brakes,



Trend in Type of Transit Vehicles, with 1944 Equal to 100

These curves portray the increases or decreases in numbers of the transit vehicles of various types in the United States since 1935. While the number of electric railway cars has decreased to a considerable extent, the number of motor buses has increased substantially, and the number of trolley coaches has increased in very large measure.

tires, etc. This group would visit a number of trolley coach operators, particularly those with widely different maintenance practices, and study the actual results of the varied systems used. A really thorough study of the effect on the equipment itself of widely different frequencies of inspection and servicing, and a study of the man hours required and other statistical records,


DAILY BUS REPORT

Date_____ Bus No._____

Bridge No. | Block No. | Route | No. of Trips | Mileage Readings Out | In | Net

MECHANICAL DEFECTS

Operator Will Fill In Below All Defects Noted

Description of Trouble | Operator's Name

MECHANICAL DELAYS

To Be Filled In by Operator and Repairman

Operator's Name | Time Stopped | Repairs Finished | Mins. Delay | Nature Trouble | Repairman's Name

Daily Record of Individual Trolley Coach Performance

Details of defects and delays are recorded on this form.

More important, the committee could develop and recommend a model maintenance system for the typical company.

Granted that a single maintenance system couldn't be applied 100% by all companies, a basic system once established could be modified as required to suit almost any operating conditions. Such a basic system, stating the optimum intervals under average conditions for various inspections and service operations, would greatly help in a number of ways.

It would help new trolley coach operations to get started on the right foot and it would provide a guide and check to assist all companies, even those with long experience. When long established companies vary from 1,500 miles to 24,000 miles between control inspections and vary from a 50,000 mile interval to never for dipping and baking armatures, one or the other extreme is pretty far off from the optimum period. And one or the other, or perhaps both of these companies, may be wasting money on either too much preventive maintenance or too many failures.

With the present high cost of labor and dwindling revenues, such a study to point the way to economies is more important than ever.

This actual field study should pay a big bonus to the manufacturer and operator alike by giving the manufacturers' design engineers an opportunity to see their product in actual service should develop valuable information. and to learn how it is actually maintained in the field. Too often these design engineers don't get close enough to the actualities of what happens in the shops and on the streets, and their product could obviously be improved if they did.

While on this subject, recognition should be given to the maintenance manuals provided by the propulsion equipment manufacturers. They supply a great deal of useful and necessary information on this part of the coach. However, when it comes to such things as inspection intervals and frequency of service operations, they apparently are not guided so much by prevailing practice nor by the optimum intervals for lowest overall cost. Naturally they are primarily interested in protecting their equipment, and like all other companies they have policies to observe, and they have a legal department!

Recommendations made by the committee suggested here would be unhampered by any financial or legal liabilities. It may be wishful thinking, but I hope such a project will be undertaken.

For the present, in order to be able to give you a rough idea of current practices in trackless trolley maintenance, I imposed on a number of my friends, many of whom are here today, to answer a survey covering a few of the high spots. I am deeply indebted to them for their interest and help and hope that they in turn may benefit from it.

Information from sixteen companies arrived in time to be incorporated, and these results will be referred to frequently in the remainder of this paper.

These companies range in size from 70 trolley coaches to 453, and average 230 coaches each, and they vary in location from one end of the country to the other. Although this does not provide a complete sampling of all trolley coach operations, I feel that it should be a representative one.

Size of Operating Locations

The number of trolley coaches concentrated at each garage operating location varies widely in current practice, some having as few as fifteen and others as many as two hundred twenty-five.

How many coaches are at each place is often limited by the area of the land owned or available for purchase. Also there are cases where dead mileage would become excessive if coaches from too many lines were brought to the same garage where that garage is remote from the center of the city.

However, looking at it only from the standpoint of garage operation, only one company thought the size should be under 100 coaches. The 100 figure was by far the most frequently mentioned, while 200 and 300 coaches were mentioned twice each. Two companies thought the size unlimited from the maintenance man's standpoint.

There are definite economies to be found in large size garages due to reduction in overhead costs such as supervision and investment. However, if an operation becomes too large, supervision becomes less effective, labor problems are apt to increase, and usually esprit de corps is lacking when the number of employees becomes too great. Also, too large a concentration of vehicles makes the transit system vulnerable to fires and to street blockades, particularly since the trolley coach lacks the manœuverability of the gas bus.

So there is a limit to size in both directions, and perhaps 100 to 200 is the ideal range.

Division of Work Between Operating Garages and Main Shops

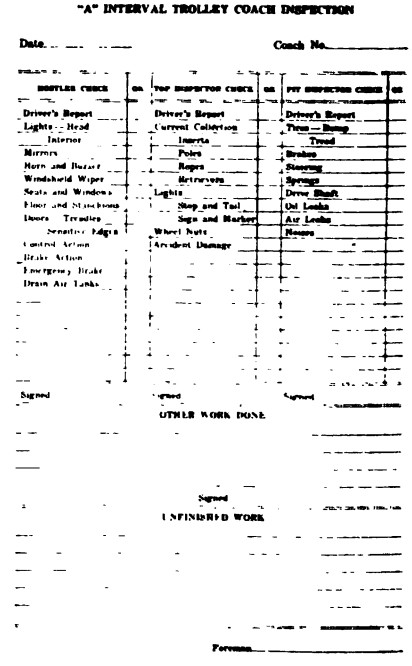
The practice in this regard is very uniform. With the exception of only a very few companies, all inspections and all unit changes are made at operating garages, and work at the main shop consists of rebuilding of all units, general rebuilding of the coaches themselves, and all painting and body work of any consequence.

Not only is this division of work representative of what is actually practiced, but the majority of companies felt that this was the ideal division of work.

Manpower Requirements for Trolley Coach Maintenance

Counting all workers, supervisors and clerks whose time is devoted to the servicing, inspection, repair, hostling and cleaning of trolley coaches, the average number of coaches per man on these 16 properties is 2.84. The variance between companies, however, is quite wide, ranging from a low of 1.8 coaches per man to 3.75, which is about twice as great. If we put these figures on a basis of men required per hundred thousand miles of annual operation, the average becomes 1.1 men, with a range from .68 to 1.5 men per 100,000 miles.

If we eliminate from these figures cleaners, sweepers, hostlers, clerks, and


"A" INTERVAL TROLLEY COACH INSPECTION

Date_____ Coach No._____

HOSTLER CHECK | OK | PIT INSPECTOR CHECK | OK | PIT INSPECTOR CHECK | OK

Driver's Report | Driver's Report | Driver's Report

Lights — Head | Current Collection | Tires — Rims

Interior | Inserts | Tread

Mirrors | Poles | Brakes

Horn and Buzzer | Ropes | Steering

Windshield Wiper | Retrievers | Springs

Seats and Windows | Lights | Drive Shaft

Floor and Stanchions | Stop and Tail | Oil Leaks

Doors — Treadles | Signs and Markers | Air Leaks

Sensitive Edges | Wheel Nuts | Hoses

Control Action | Accident Damage

Brake Action

Emergency Brake

Drain Air Tanks

Signed | Signed | Signed

OTHER WORK DONE

Signed

UNFINISHED WORK

Foreman

Report Form in Connection with Inspection Made Every Other Night

supervisors above foremen level, the average becomes 4.20 coaches per man, with a range of 2.75 to 5. This latter set of ratios, however, is of doubtful value because of differences in the classification and use of men.

The limitations of these figures are realized, including the fact that a few companies may work 48 hours per week instead of 40. However, in spite of the wide variance of some companies from these ratios, the majority of the 16 companies had figures close to averages stated, which indicates that the figures may be used as a general guide.

These figures include the fractional equivalent of any men who spend part time on trolley coach work, such as unit overhaul men in a main repair shop. The only category excluded from the figures are stores department employees and night watchmen, but shop janitors were counted.

The Ideal Preventive Maintenance System

The objective of a preventive maintenance system should not be to eliminate all road failures. Neither should the goal be to extend the life of parts to the ultimate. If the cost of transportation to the public were of no importance, those might be noble ideals to strive for, but either objective carried too far will result in prohibitive cost.

For every inspection and service operation, there is some optimum frequency that will result in a minimum overall cost of the two components—labor for the preventive work and the cost of failure.

For a simple illustration, let's assume that when lubricating the chassis every 1,000 miles at $1.00 each time, the life between front axle overhauls is 150,000 miles. Over a 300,000 mile period, the total cost would be $300 for the 300 lubrications, plus two axle overhauls at $100 each, or a total of $500. Let's further assume that when the lubrication period is increased to 3,000 miles the life of other chassis parts would remain essentially the same but axle life is reduced to 100,000 miles. This sounds bad, but how does the cost compare? In the second case, for the same 300,000 miles of operation, there would be 3 axle overhauls costing a total of $300, but only 100 lubrications would be required, costing only $100, making a total cost of only $400 compared with $500 before.

Or take the case of tire inflation. Some companies check tire pressures daily to obtain maximum possible tire life. Other companies check their tires no oftener than once a month. Is it worth increasing the labor cost for tire inflation thirty-fold for a small gain, if any, in tire life? I doubt it.

Tire inflation can also be used to illustrate another point regarding frequency of inspection. Some companies have found that when hurriedly checking the air pressure daily, the job is not accurately done, and further, valve leakage is increased due to frequent breaking of the air seals and the introduction of dirt—and also due to failure to replace valve caps! These same types of troubles can result from too frequent inspection of other components of the coach.

So the frequency of inspection and service operations should be a compromise between the labor cost of performing them, and the cost of failures, including the intangible cost of disrupted service.

Roughly speaking, and at the risk of oversimplifying the problem, to achieve minimum cost, inspection intervals should be extended just short of the point of excessive failures. The management probably will have to be the judge of what should be considered excessive.

Enough about the objectives of preventive maintenance.

The ideal preventive maintenance system should be simple, fool-proof and easy to follow. It should have a minimum of different types of inspections. Also, it should call for bringing the coach into the shop the fewest possible times per year so hostling and "make ready" time will be at a minimum.

A word about a time vs. a mileage basis for scheduling service operations. I think it is safe to say that any service operations that require an interval of a week or less should be handled on a time basis. In the first place, not many man-hours per coach would be involved, and record keeping and scheduling coaches in for service at such frequent intervals on a mileage basis would bog down in paper work.

However, for the less frequent service operations requiring a number of man hours, real savings can be made on the average property by scheduling on a mileage basis. This is because operations scheduled on a time basis would be done much too frequently on the buses used for trippers, while coaches that usually fill the base runs would not get sufficient service. On most properties certain buses are favorites for the base runs.

A Typical Preventive Maintenance System

Lacking the much needed engineering analysis previously mentioned to determine the optimum periods for various service operations, I will outline a typical system based on rule of thumb and majority practice of companies at present.

It is predicated on 36,000 miles per coach per year, or 3,000 miles per month and 100 miles per day, which figures

"B" INTERVAL TRACKLESS TROLLEY INSPECTION

Date_____ Mileage Due_____ Speedometer Reading_____ Coach No._____

	PIT INSPECTION	Adj.	Greased	O. K.	REMARKS
1	Service Brakes				
2	Emergency Brakes				
3	Brake Linkage & Interlock Cyl.				
4	Steering Gear & Mounting & Pitman Arm				
5	Tie Rod, Drag Link & Ends				
6	Springs, Center Bolt & U-Bolts				
7	Frame, Gussets & Other Struct. Members				
8	Horn & Relay				
9	Air Lines, Reservoir & Brake Cyl.				
10	Compressor Motor, Brushes & Oil Level				
11	Rear Axle & Differential				
12	Master & Braking Controllers				
13	Arc Chutes, Cables & Connections				
14	All Control Rods & Linkage				
15	Main Motor Mountings				
16	Lower Main Motor Brushes & Holders				
17	Universal Joints & Drive Shafts				
18	Blower Ducts, Bellows & Covers				
19	Heat Damper—Check Operation				
20					
21					

Inspector _____ Apprentice

	ELECTRICAL INSPECTION	Adj.	Greased	O. K.	REMARKS
1	Blow Out Motors and Control Compartment				
2	☐ Grease Main Motor				
3	☐ Grease Auxiliary Motor				
4	All Control Equipment, Contactors, etc.				
5	Aux. Motor, Brushes, Holders & Comm.				
6	Aux. Motor, Coup., Belts & Bearings				
7	Upper Main Mtr. Brushes & Comm.				
8	Air Comp., Governor & Setting				
9	Gen. Brushes, Holders, Comm. & Brgs.				
10	☐ Check Voltage & Current Reg. Setting				
11	Body Insulation Test				
12	Trolley Shoes, Harp, Rope & Retriever				
13	☐ Change Retrievers				
14					
15					

Inspector _____ Apprentice

	BODY INSPECTION	Adj.	Greased	O. K.	REMARKS
1	Clean & Check Battery—S. Grav.—Connections				
2	Inspect Body for Damage & Paint				
3	Windshield Wipers & Valves				
4	Lights & Fixtures, Inside & Out				
5	Roof, T. Base & Poles—Straighten Poles				
6	Interior, Floor, Seats & Stanchions				
7	Operator's Seat and Adjustments				
8	Switches, Controls, Instruments & Chime				
9	Brake Chamber Pressure & Low Press. Alarm				
10	Doors, Controls, S. Edges, Treadle (Rear 2 Sec.)				
11	Inspect & Air Tires—Ck. Wheel Lugs				
12	Sash & Glass—Ck. for Easy Opening				
13	Signs, Sign Controls & Block No.				
14	Fire Extinguisher & Mirrors				
15	Trans. Cutter, Fare Box, Changer Rack, Etc.				
16					
17					

Inspector _____ Apprentice

The Report form for Use in connection with the Inspections Made at "B" or 3,000-Mile Intervals

Mainly about Transit People

C. I. Bacon, Manager, Cornwall Street Ry., Light and Power Co., Ltd., was elected a vice president of the Canadian Electrical Association at its recent sixtieth annual meeting.

Henry C. Givins, who was recently appointed Superintendent of Railway Maintenance, Oakridge Transit Center, B.C.E.R. Co., was born at London, Ont., October 26, 1910, and graduated from the University of British Columbia with a B.A. Sc. in mechanical engineering in 1932. He joined the B.C.E.R. Co. in 1935 as draftsman-surveyor at Vancouver and became Assistant to Transportation Manager there in 1939. From 1941 to 1945 he served with the R.C.A.F. as Squadron Engineer Officer, Station Engineer Officer and Chief Engineer Officer, rejoining the company in 1946 as Assistant to Mechanical Superintendent, Kitsilano Shops, Vancouver. The following year he became Supervisor of Oakridge and sub garages.

E. D. Gray-Donald, formerly Chief Engineer, Quebec Ry., Light and Power Co., and now Vice President and Chief Engineer, Shawinigan Water and Power Co., was the 1949-50 President of the Canadian Electrical Association, and presided at the recent annual meeting of that body, held at Murray Bay, Quebec.

T. Ingledow, Vice President and Chief Engineer, British Columbia Electric Ry. Co., was elected a vice president of the Canadian Electrical Association, at the recent annual meeting of that body.

W. J. Marshall. whose appointment as Freight Traffic Manager, British Columbia Electric Ry. Co., was recorded in our July issue, pg. 384, gained early transportation experience in the service of the Grand Trunk Ry. at Montreal, and served in the Canadian Army in the first world war before joining the B.C.E.R. Co. in August, 1920, as Chief Clerk. He subsequently became Assistant General Freight and Passenger Agent, and then General Freight and Passenger Agent, holding the latter position prior to his recent appointment. In his new position, he supervises all of the B.C.E.R. Co. freight and passenger agencies with the exception of the Davie and Carrall Street offices in Vancouver. Mr. Marshall has long been a keen advocate of traffic safety, and has served as President of the Vancouver Traffic and Safety Council.

A. E. Parker, B.Sc., retired from the position of Director of Public Relations and Publicity, Winnipeg Electric Co., July 1, because of ill health. Mr. Parker was born in London, England, September 18, 1886, and obtained his degree of B.Sc. of Accounting in 1913. From 1914 to 1918, he was Secretary, Western Trust Co., Winnipeg; 1918 to 1923, Managing Editor, Canadian Finance, Winnipeg; 1923 to 1928, Managing Secretary, Board of Trade, Winnipeg, and in March, 1928, he joined the Winnipeg Electric Co. in his recent capacity. While active with the company he served as Chairman of its General Safety Committee, and was formerly Chairman of the Transit Section of the National Safety Council. For three consecutive years he was Chairman of the Advisory Traffic Commission of the City of Winnipeg.



W. J. Marshall,
Freight Traffic Manager, British Columbia Electric Ry. Co., in which position he supervises all of the company's freight and passenger agencies except the Davie and Carrall Street offices in Vancouver.

R. W. Queen-Hughes has been appointed Director of Public Relations and Publicity, Winnipeg Electric Co., it was announced recently by W. H. Carter, President and General Manager. Mr. Queen-Hughes has been associated with Winnipeg Electric Co. since 1926, and was appointed to the Publicity Department in 1936. He succeeds A. E. Parker, who retired on July 1, on account of ill health. Mr. Queen-Hughes joined the 2nd Battalion Winnipeg Grenadiers in July, 1940, and transferred to the 1st Battalion Winnipeg Grenadiers in May, 1941, serving with them in Jamaica and as Transport Officer in Hong Kong. He was a prisoner of war in the hands of the Japanese for three years and eight months, and returned to Winnipeg Electric Co. service in January, 1946, after five years of war service. He is a member of the Public Utilities Advertising Association, the Public Relations Committee of the American Transit Association and the Canadian Electrical Association, and is chairman of the Public Relations Committee of the Canadian Transit Association. He is also Secretary of the Winnipeg Men's Branch of the Canadian Institute of International Affairs. A portrait of Mr. Queen-Hughes appeared in our July issue, pg. 396, accompanying our reproduction of an address which he gave on the experiences of the Winnipeg Electric Co. in the Southern Manitoba floods in the spring of this year.

R. N. Watt, President, Montreal Tramways Co., returned to Montreal near the end of July, aboard the C.P.S., Ltd., ss. Empress of France, from a tour of European cities on which he studied transportation matters in London, Paris and The Hague. According to a Montreal press report, Mr. Watt stated that even though the London rapid transit system handles about one-third of the traffic, there is rush hour congestion, particularly around 5 p.m. Among the improvements which he noted were the use of bombed areas as parking spaces, increased use of one-way streets, and strict penalties for the infringement of rules to keep motorists off electric railway tracks. However, he stated, none of the cities visited have the unique problem confronting Montreal, which, with its Mount Royal in the center of the city, is faced with an unusual transportation problem. He reported that he found considerable controversy in London in regard to the use of trolley coaches, the argument against them being that they are not flexible enough, and that the service given by them is subject to interruption by fire or storm, but, he added, the Montreal people like them and it is not the Montreal Tramways Co. intention to go against the wishes of the public.

Winnipeg Electric Co. Traffic

In May, Winnipeg Electric Co. carried 6,856,392 revenue passengers, compared with 7,693,593 in May last year, a decrease of 837,201 or 10%.

The Winnipeg Electric Co. management advises that the large decrease in traffic in May this year was due chiefly to the Red River flood at Winnipeg.

In June, Winnipeg Electric Co. carried 6,800,351 revenue passengers, compared with 7,727,963 in June, 1949, a decrease of 927,612, or 12%. The management points out that the large decrease in traffic in June this year, compared with that of the month in 1949, was due to the effects of the Red River flood in the month this year, and also to the fact that the 75th birthday celebration of the City of Winnipeg was held in June last year.

New Trolley Coaches For Vancouver

In the period June 15-July 15, Canadian Car and Foundry Co., Ltd., Automotive Division, delivered 19 Model T-44, 48-psgr. trolley coaches to British Columbia Electric Ry. Co. for operation in Vancouver.

Transit Industry Activity, First Quarter of 1950

Transit traffic in Canada in each of the first three months of this year was down slightly from that in those months in 1949, in both urban and interurban service, but, with a better average fare applying in the first quarter of this year, revenue was up in each month in this year's first quarter.

There was some reduction in transit traffic in Canada during the first quarter of this year, compared with that in the first quarter of 1949, and riding was consistently at a lower level than last year throughout the quarter, traffic decreases having been recorded in all three months. Also, the traffic decrease was evident in both classes of service, viz., city and interurban.

In January, revenue passengers carried in urban service in all of Canada totalled 130,092,224, compared with 132,764,171 in January, 1949, while revenue passengers carried in interurban service totalled 8,625,076, compared with 9,325,623 in January last year. In the combined services, the decrease in traffic in January this year, compared with that in that month last year, was one of 2.4%. While there was improvement in the traffic in January this year in Nova Scotia, New Brunswick, Saskatchewan and Alberta, with practically no change in Ontario and with an increase in interprovincial bus passengers, there were traffic decreases in the other provinces, with one of 10% in British Columbia, caused chiefly, it is believed, by inclement weather.

Despite the traffic decrease in the whole country, urban service revenue was up from $8,539,628 in January last year to $9,351,900, because of fare increases during the year, and interurban service revenue increased from $2,984,529 in January last year to $3,065,848.

In February, revenue passengers carried in urban service in the whole country were 122,953,179, compared with 125,567,175 in that month last year, and interurban service passengers decreased from 8,771,059 in February last year to 8,076,478 in the month this year. However, urban service revenue was up from $8,107,704 in February last year to $8,885,009 in February this year, and interurban service revenue increased from $2,725,574 in the month last year to $2,813,921. The decrease in February this year in total traffic, urban and interurban combined, was one of 2.5%. While gains were recorded in traffic in Nova Scotia and Alberta in the month this year, with Ontario and New Brunswick traffic fairly well maintained, decreases were recorded in other provinces, and continued bad weather in British Columbia had an adverse effect. In interprovincial bus service, passengers carried increased from 42,465 in February last year to 58,797.

In March, passengers carried in urban service were 136,387,448, compared with 138,990,323 in March last year. In interurban service, there were 8,796,940 passengers carried in the month this year, compared with 9,596,327 in the 1949 month. However, the higher average fare applying in the first quarter of this year continued to make its influence felt, and urban service revenue increased from $8,986,411 in March last year to $9,851,625 in the month this year, and interurban service revenue from $3,013,484 in the 1949 month to $3,045,950.

In total traffic, urban and interurban, there were 2.3% fewer revenue passengers carried in March this year than in that month last year. The total traffic volume was lighter in the month this year in New Brunswick, Quebec, Manitoba and British Columbia, but good gains were registered in Prince Edward Island and Alberta. Ontario patronage was well maintained, with increased urban travel nearly counterbalancing a decrease in interurban travel. In Quebec, about two million fewer passengers were carried in March this year than in the month last year. Passengers handled

Record of Transit Activity in Canada, March, 1950

(With Many Comparative Figures for March, 1949)

Kind of Vehicle	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Inter-Provincial	Canada
Number of Passengers Carried—Urban Service											
Electric Car				24,150,913	30,401,708	3,587,895	1,996,239	1,091,491	3,138,843		64,367,089
Trolley Bus		2,483,522		1,439,988	3,872,210	2,627,527	388,113	3,684,025	3,031,130		17,526,515
Motor Bus		1,282,533	2,792,095	15,364,396	23,373,233	3,047,241	560,538	1,850,768	6,156,413		54,427,219
Chartered[2]		2,488	237	14,104	41,285	7,901			610		66,625
Total—1950		3,768,543	2,792,332	40,969,403	57,688,436	9,270,564	2,944,890	6,626,284	12,326,996		136,387,448
Total—1949*		3,596,418	2,803,358	[3]42,883,901	57,265,138	9,797,940	2,892,004	6,225,790	13,525,774		[3]138,990,323
Number of Passengers Carried—Interurban Service											
Electric Car				525,368	137,860				647,259		1,310,487
Motor Bus	17,980	285,699	359,219	1,959,298	2,795,930	374,349	88,499	280,091	832,720	65,399	7,059,184
Chartered[2]	2,047	2,785	4,703	96,604	296,414	1,845	35	188	22,648		427,269
Total—1950	20,027	288,484	363,922	2,581,270	3,230,204	376,194	88,534	280,279	1,502,627	65,399	8,796,940
Total—1949*	4,515	272,550	426,337	[3]2,654,520	3,721,377	457,851	80,762	261,381	1,667,841	49,193	[3]9,596,327
Revenue $											
Urban—1950		287,862	141,784	3,120,114	3,759,282	728,929	175,652	443,377	1,194,625		9,851,625
Urban—1949*		282,850	143,821	[3]2,567,753	3,641,516	693,496	172,167	376,522	1,108,286		[3]8,986,411
Interurban—1950	9,416	101,030	117,036	750,384	1,112,856	129,414	59,736	204,120	480,443	81,515	3,045,950
Interurban—1949*	3,532	84,392	107,740	[3]702,332	1,151,872	137,628	50,749	182,232	535,527	57,480	[3]3,013,484
Vehicle Miles Run—Urban Service											
Electric Car				2,760,189	3,403,484	464,629	92,583	153,555	528,151		7,402,591
Trolley Bus		241,451		162,844	442,557	330,692	118,862	454,778	538,850		2,290,034
Motor Bus		331,717	330,206	2,289,335	3,861,030	565,975	139,769	297,737	1,482,154		9,297,923
Chartered[1]		1,360	58	6,879	29,070	12,586	148	3,236	2,591		55,928
Total—1950		574,528	330,264	5,219,247	7,736,141	1,373,882	351,362	909,306	2,551,746		19,046,476
Total—1949*		556,061	318,793	[3]5,199,942	7,610,815	1,408,568	313,223	879,540	2,546,507		[3]18,833,449
Vehicle Miles Run—Interurban Service											
Electric Car				134,021	118,738				235,942		488,701
Motor Bus	26,290	366,070	364,483	1,646,609	2,743,517	402,289	199,637	493,059	1,014,488	215,059	7,471,501
Chartered[1]	3,294	7,218	16,102	90,591	217,974	11,908	120	4,970	35,624		387,801
Total—1950	29,584	373,288	380,585	1,871,221	3,080,229	414,197	199,757	498,029	1,286,054	215,059	8,348,003
Total—1949*	9,981	349,034	373,641	[3]1,915,276	3,194,001	466,958	153,653	496,886	1,339,383	166,775	[3]8,465,588
Fuel Consumed—Gallons											
Gasoline—Urban—1950		57,579	26,740	497,893	805,926	116,695	28,534	65,980	304,504		1,903,851
Gasoline—Urban—1949*		66,631	26,958	[3]459,484	754,518	125,186	28,293	44,693	269,139		[3]1,774,902
Gasoline—Interurban—1950	6,271	57,065	41,320	240,712	509,080	71,500	37,882	88,539	176,093	23,897	1,252,359
Gasoline—Interurban—1949*	2,502	47,109	45,489	[3]274,405	536,115	78,731	32,163	84,990	180,569	20,022	[3]1,302,095
Diesel Oil—1950		2,308	62,013	83,941	76,977			3,403	7,539	10,238	246,419
Diesel Oil—1949*		1,445	52,094	95,249	54,519			6,599	5,083	6,375	221,364

[1] Includes miles run by all classes of vehicles in chartered service. * 1949 data are revised.
[2] The number of passengers carried in chartered service is only aproximate as exact counts are not made for all trips.
[3] 1949 statistics for Quebec carriers failing to report in 1950 are shown below. These are excluded above from the 1949 totals for Quebec and Canada.

	Bus Miles	Passengers Carried	Revenue $	Fuel Consumed—Gallons
Quebec—Urban	114,705		38,219	
Quebec—Interurban		90,119		24,080

in interprovincial bus service increased from 49,193 in March last year to 65,399.

A feature of transit operation in the first quarter of this year was the large increase in traffic handled by trolley coaches. In all three months the increase over corresponding 1949 months was large. In March, for example, there were 17,526,515 passengers carried by trolley coach in urban service, whereas in March last year the trolley coach total was only 12,353,000. This increase in trolley coach traffic has been largely at the expense of electric railway car traffic, and in urban service the number of revenue passengers handled by electric railway car decreased from 73,489,000 in March last year to 64,367,089 in the month this year. Moderate increases in motor bus traffic continue to be the rule.

There were 19,046,476 vehicle miles operated in urban service in all of Canada in March this year, compared with 18,833,449 in the 1949 month. In March this year, the transit properties operated 7,402,591 electric railway car miles, 2,290,034 trolley coach miles, 9,297,923 motor bus miles, and 55,928 chartered vehicle miles. In interurban service, there was a slight decrease in total vehicle mileage in March this year, viz., from 8,465,588 in March last year to 8,348,003 in the month this year. There were only 488,701 electric railway car miles in interurban service, and 7,471,501 motor bus miles and 387,801 chartered vehicle miles.

The increase in urban service vehicle mileage in March this year was accompanied by one in gasoline consumption, the motor buses of the urban operators having used 1,903,851 gall. in March this year compared with 1,774,902 gall. in the 1949 month. In interurban service, the decrease in vehicle mileage was accompanied by one in gasoline consumption, the interurban motor buses having used 1,252,359 gall. of gasoline in March this year, compared with 1,302,095 gall. in the 1949 month.

Some increase in Diesel oil consumption is noted, this having been from 221,364 gall. in March last year to 246,419 gall. in this year's month, in the whole country.

We accompany this review by a table in which the complete figures regarding the March transit operations are given. For each province individually, for interprovincial bus operators as a group, and for transit operators in the whole country, the figures record the passenger traffic, the revenue, the vehicle mileage, and the fuel consumption, and many comparisons with March, 1949, are given. As in many preceding months, a number of Quebec bus operators who reported for the 1949 month did not report for the month this year, and, to make the figures comparable, the statistics of these operators for March last year are excluded from last year's totals for the Province of Quebec and for Canada as a whole, but these March, 1949, figures appear as a footnote to the table.

Transit Revenues, Expenses, Etc.

(Managements' Figures)

Calgary Transit System
(Managements' Figures)

April:—	1950	1949
Revenue	$163,880.38	$146,075.88
Expenditure	133,592.57	111,334.20
Operation surplus	30,287.81	34,741.68
Total surplus	*3,713.99	12,945.77
Revenue passengers	2,531,643	2,359,152
Jan. 1-April 30:—		
Revenue	$705,277.92	$600,290.33
Expenditure	526,147.84	450,973.86
Total surplus	40,635.06	61,333.44
May:—		
Revenue	$164,806.31	$156,538.93
Expenditure	138,880.26	103,861.39
Operation surplus	25,926.05	52,677.54
Total surplus	*8,122.04	30,358.49
Revenue passengers	2,543,624	2,254,017
Jan. 1-May 31:—		
Revenue	$870,084.23	$756,829.26
Expenditure	665,028.10	534,835.25
Total surplus	32,513.02	91,691.93

*Deficit

Edmonton Transit System

April:—	1950	1949
Revenue	$220,869.61	$209,527.39
Expenditure	164,472.12	167,808.12
Operation surplus	56,397.49	41,719.27
Total surplus	11,888.28	*556.13
Revenue passengers	3,129,088	3,033,099
Jan. 1-April 30:—		
Revenue	$928,215.28	$826,346.14
Expenditure	701,422.03	670,562.88
Total surplus	50,019.57	*12,750.16
May:—		
Revenue	$214,620.82	$210,549.45
Expenditure	168,316.23	170,260.23
Operation surplus	46,304.59	40,289.22
Total surplus	2,107.82	*2,037.28
Revenue passengers	2,976,825	2,968,350
Jan. 1-May 31:—		
Revenue	1,142,836.10	1,036,895.59
Expenditure	869,738.26	840,843.11
Total surplus	52,127.39	*14,787.44

*Deficit

Regina Municipal Railway

April:—	1950	1949
Revenue	$ 71,073.11	$ 67,562.62
Expenditure	46,567.44	64,498.42
Operation surplus	24,505.67	3,064.20
Total surplus	287.77	*13,283.58
Revenue passengers	1,095,377	1,095,840
Jan. 1-April 30:—		
Revenue	$321,815.41	$310,100.10
Expenditure	207,470.64	290,830.03
Total surplus	17,473.12	*53,284.49
May:—		
Revenue	$ 64,814.29	$ 62,558.65
Expenditure	42,859.69	46,014.41
Operation surplus	21,954.60	16,544.24
Total surplus	*8,963.32	*1,594.39
Revenue passengers	1,026,569	1,013,738
Jan. 1-May 31:—		
Revenue	$386,629.70	$372,658.75
Expenditure	250,330.33	336,844.44
Total surplus	8,509.80	*54,878.88

*Deficit

Saskatoon Transit System

April:—	1950	1949
Revenue	$ 46,310.65	$ 45,729.39
Expenditure	34,206.60	31,605.71
Operation surplus	12,104.05	14,123.68
Total surplus	123.77	1,337.68
Revenue passengers	796,264	781,698
Jan. 1-April 30:—		
Revenue	$228,958.05	$231,424.20
Expenditure	156,764.89	138,243.35
Total surplus	21,802.27	39,298.36
May:—		
Revenue	$ 40,740.81	$ 40,218.46
Expenditure	34,524.47	30,416.70
Operation surplus	6,216.34	9,801.76
Total surplus	*5,421.31	*2,509.18
Revenue passengers	698,432	686,563
Jan. 1-May 31:—		
Revenue	$269,698.86	$271,642.66
Expenditure	191,289.36	168,660.95
Total surplus	16,380.96	36,789.18

*Deficit

Mr. Furlong's C.T.A. Address

The first portion of the presidential address of the retiring Canadian Transit Association President, at the annual meeting, at Bigwin Inn, in June, appeared in our July issue, beginning on pg. 391, and the balance is presented herewith.

Mr. Furlong's presidential address was published in our July issue to the point where he had stated that while many people think that to-day's relatively high prices are bad for everyone and bad for the future, his own emphatic view is that it is better to have high prices and prosperity than low prices and depression. Continuing, he stated as in the following: lowing:

I dislike to introduce figures, but there are some you should have if you would understand my full meaning. In Canada in 1945 labour income in millions was 410, and, using the base 100 for the period 1935-1939, industrial production was 176.3. In 1949 labour income was 636 million and industrial production was at 184.3. Wholesale sales for the 1945 period were 205.4 and in 1949 they were 291.3.

Let us consider what all these factors portend for the transit industry. Increased prosperity, increased population, larger cities and more of them, richer development of natural resources, expanding facilities of all kinds. What, in terms of passengers, vehicles, employees and service, do these things mean?

Perhaps, for the benefit of those who are skeptical of my authority, I should refer you to an undoubted and familiar authority, Colonel Sidney H. Bingham, Chairman of the New York Board of Transportation, often termed the world's Number One Transit Trouble Shooter. He is responsible for moving some 8,000,000 passengers daily —more than any other railroad in the country. His advice is sought from coast to coast as well as abroad.

In a recent public statement Colonel Bingham pointed up the traffic problems that will face our industry unless we have the courage to start work now on a determined policy of city planning.

The crisis in transit now affecting cities on this continent is as simple as 1, 2, 3, he says. For example, our use of the private car has doubled within the past six years. In the United States (and the same is becoming true here) more than half the families own a car. One in every 17 families have two cars.

All these vehicles are trying to squeeze onto streets that were overcrowded even back in the horse and buggy days.

With no forseeable saturation point ahead we are grimly testing out all the probable parking-traffic programs and unless these do the trick, the only answer will be to keep the cars entirely out of midtown districts.

"Dismaying as it seems," Colonel Bingham reminds us, "at certain times in the rush hours and on certain streets, the private motorist just can't have his car and drive it too. Actually the idea isn't too revolutionary. Back in Rome they had to bar certain streets to pleasure chariots during rush hours."

"Frankly, as a transit man, I don't presume to tell those engaged in traffic engineering what the solution is," he goes on. "But in conferences with experts all over the world, I have found that their minds are turning to extremes for the ultimate solution."

His remedy is what we have discussed often among ourselves—more stringent traffic regulation. Non-essential cars would be eliminated from the heavily traveled areas and only public transportation would be permitted in super-power and large capacity buses. Such a program, he said, will depend entirely upon the wholehearted co-operation of every citizen. Therefore, the first requisite is a program of education, zealously pressed forward.

"You can state the problem in one sentence," he says. "The average private car carries one and seven tenths occupants and hogs some 240 square feet of space which isn't there. As a result, traffic congestion already is terrifically expensive—and worse is to come unless we do something drastic about it."

"Whether he realizes it or not the private citizen pays every penny of this waste. He pays in lost time, higher expenses in doing business, high taxes for highways and in the decentralization of business with destruction of urban values."

Colonel Bingham looks even farther into the future, but he is not dreaming. He sees the day when 40-foot buses, carrying 50 passengers each, will be common sights.

Already, there are 50-passenger Bingham-designed buses rolling on New York Streets. Police at first refused to permit them. But they were persuaded when it was shown that a lane of private autos on a surface street will carry only 1,575 passengers per hour, while buses of the new proportions will carry 13,500 passengers.

The future already is upon us in many ways that we do not realize. In Cleveland, Houston and other cities, to reduce private car congestion, shoppers are being brought into midtown through shoppers specials. Hartford, Connecticut, has set up a parking area, with shuttle bus running to the business district. Other cities have experimented with the future by restricting certain streets exclusively to the mass-transit, surface vehicles. But the public thus far resents such drastic measures.

"The private citizen is the key to our whole problem," Colonel Bingham concludes. "We must give him a better understanding of our municipal business. He must understand that as a private motorist, a transit passenger and a citizen, he pays for what he gets and he gets what he pays for. Unless he co-operates in helping to solve the traffic transit problem, we may be forced into the no-driving plan, which would mean—no pleasure driving of any kind during rush hours in downtown districts.

As I prepared this address, my farewell message as president, I came to the conclusion that I would not dwell unduly on the problems which are the function of well-staffed committees within our organization. I want rather to leave you with some material for long-range thinking and planning. I should like, more than anything else, to have you cast your minds forward to the future of our country and our industry. I urge you to think seriously about the developments that lie ahead and chart a course now that will meet head-on the problems we must eventually solve as citizens and as transit executives. I do so with a great deal of confidence because I am familiar with the talent and ability existing in this group.

I am not going to be so naive as to suggest that we have supermen in our organization, but I am confident we are a stronger and more able group today than we have ever been. I have been particularly impressed with the display of co-operation and assistance from our members and committees at meetings all across the country during the past year. They and our Secretary are to be congratulated for the constructive manner in which they have approached their duties and sought to find answers to their problems.

To return to the problem of proper planning, I believe that while in the past few years experts have compiled practically all of the necessary data and people generally have become reconciled to traffic regulation, they are not yet ready to take their medicine in full dosage. They are like the sick man who says he is willing to go along with doctor, but does not want to go all the way. Sometimes it seems that everyone knows and realizes the truth of that except the fellow who has already parked or wants to park his car to further confuse or jam traffic. He is the one who presents the most difficult problem. He is the fellow we have to educate because he is generally the one who squawks loudest and longest and winds up going to his alderman or the mayor or police commissioner or anyone else who can "fix" things for him. He and his kind exert political pressure so that only half measures are enacted. His numbers are too many.

As a concrete example of what can be done by proper planning, let us look at the accomplishments of Oklahoma City, with a population of 205,000. Here is what they did in that city:

1. The number of traffic signal lights was doubled and the old system was overhauled and modernized.
2. A one-way street plan was put into effect.
3. Many intersections were re-designed, channelized and islands installed.
4. A rush-hour parking ban is now in use on several major streets.
5. Time parking limits in the business districts have been reduced after detailed studies were made of parking needs and demands.
6. A model traffic code was passed. Five thousand copies of the official code were published and distributed; 100,000 copies of a digest were distributed.
7. Considerable speed zoning was done, particularly at high-accident locations.
8. A full-time intensive safety education program was carried on by press, radio and safety organizations.
9. Safety education and driver training is taught in high schools.
10. All traffic engineering improvements were based on scientific engineering studies and the changes were sold to merchants and business people and citizens generally before they were introduced.

While this pattern may not be adaptable to every city, it can be seen how greatly it would help transit executives with their troubles. This emphasizes, I think, the need for concerted action and study on our part as an association. Our problems are nearly all alike in every locality. What variations there are really are not great. By acting as an association we can gain greater results and benefit by each other's experience. We also will be able to present our individual cases more forcefully to authorities and the public than if we acted independently.

Looking back over the past 30 years, I believe that experiences of the transit industry have taught the people many lessons and they are now ready to accept our decisions provided they are completely informed. It goes without saying that if the public is convinced you will have no trouble with the authorities.

What we do we must do as an association so that the greatest good can accrue to the greatest number. I know of no industry which has taken a greater beating from misinformed public opinion than the transit industry. Other public utilities have survived and have come through most of their troubles with colors flying. Their success may be attributed entirely to the support given the various associations to which they belong. We are very much in the position of the founding fathers of the United States —we must hang together or we may hang separately. I need not labour the point that acting in unison is the very basis of our industry's existence. We must concentrate our efforts if

we are to reach our goals of more enlightened traffic regulation and more economic operation.

In conclusion, I hope I may have given you some food for thought on this occasion, the opening of our 45th annual convention. They who say we have an easy road ahead are misleading in their arguments. There is never any easy road for an industry such as ours in a country such as we have. I can say to you frankly that you have onerous duties to face. You must plan wisely for modern and serviceable extensions; you must make your voices heard in urging better planning of streets and traffic regulations.

You cannot hope to escape the headaches of fare structures, labour relations, public relations, accident prevention, pension demands, and the many other problems you are familiar with. On the subjects of pensions, you will hear a special address tomorrow by an able authority.

Above all, I hope I have left you with some of the deep significance which attaches to our time as men and women engaged in a great national industry whose services are part of the very lifeblood of our nation. Before this meeting ends I will step down as President confident that we have the know-how, the brains and the courage to meet our problems face to face. I bespeak for my successor the same loyalty and magnificent support which have been accorded me through the years of my service.

During the last four years, first as your Vice President and then as your President, I have had a rich and often revealing education in being closely associated with the members, officers and affairs of this organization. I have had to modify many of my former opinions. I have found it necessary often to seek advice and counsel from those whose experience was broader than mine. It has always been forthcoming. One thing remains unchanged—that is my firm belief and faith in our nation and in its future as one of the most blessed of all lands. I am firmly of the belief that we have within our ranks the type of men who are capable of meeting our problems with determination and skill. I wish them success and I stand ready, always, to serve this organization to the utmost of my strength and ability. Thank you.

Toronto Subway Work Proceeding

The Toronto Transportation Commission and its contractors are continuing to make excellent progress on the construction of the north-south subway under and parallel to Yonge Street, Toronto's main north-south thoroughfare. At time of writing, July 20, on contract S1 (covering the work on the east-west section under Front Street, between Yonge Street and the Union Station, as well as work on Yonge Street) intermediate lift excavation was continuing on Front Street east from York Street, with over 400 ft. completed. Bottom lift excavation was continuing on Yonge Street south from Colborne Street and was completed as far south as the curve at Front Street. Intermediate lift excavation at Yonge Street north of Colborne Street had progressed to a point between King Street and Adelaide Street. Decking had been placed over all of the excavation covered by this contract.

On contract S2, covering work northerly on Yonge Street, the concrete invert slab from Queen Street to Dundas Square had been completed and the Shuter Street ramp had been closed. Placing of the steel forms for the pouring of the walls in the Albert Street entrance was proceding at time of writing. North of Dundas Street, excavation of soldier pits, to expose utilities, had begun at the west side of Yonge Street.

On contract S2A, underpinning operations were continuing at time of writing. On contract S3, work began on July 10, and at time of writing pile driving is in progress between Maitland Street and Wellesley Street on private right of way. Work also commenced on July 10 on contract S4, with excavation for sewers and removal of trees on private right of way. To time of writing, work has not commenced on contract S5.

Some changes in electric railway car routing were made necessary, commencing July 16, because of the Yonge street subway activities. Since the date mentioned, cars on the Yonge route have been operating southbound via Yonge, Alexander, Church, Dundas, Victoria, Richmond, Yonge and Front to Simcoe Loop and returning northbound over the same route except that they use Maitland Street between Church and Yonge Streets instead of Alexander street. The Harbord route will be split until August 13, while the Dundas and Yonge intersection is closed to traffic. During this period the eastern portion loops via Dundas, Church, Richmond, Victoria and Dundas streets, while the western portion loops via Dundas, Bay, Albert, Elizabeth and Dundas streets.

Because of these diversions it was necessary to lay temporary tracks for the eastbound Yonge cars on Alexander street and the westbound cars on Maitland street.

B.C.E.R. Co. Traffic

The British Columbia Electric Ry. Co. carried revenue passengers on its various lines in April as follows:—

Vancouver	7,876,815
North Vancouver	434,474
New Westminster	767,171
Interurban	584,798
Victoria	1,481,985

May Traffic:—In May, there were 8,011,036 revenue passengers carried on Vancouver lines; 452,247 on North Vancouver lines; 798,323 in New Westminster; 601,521 on interurban lines, and 1,570,182 in Victoria.

Transit Service in Buffalo

Just prior to the middle of July, electric railway operation in Buffalo, N.Y., was terminated, and the transit service is now being given entirely by buses. A press report states that before an all-bus service was decided upon, there were demonstrations of operation with P.C.C. electric railway cars and with trolley coaches, but that the preference was for an all-bus system. The beginning of the all-bus service was preceded by a strike of transit employees early in July, marking the first stoppage of transit service in Buffalo in more than twenty-five years. The employees demanded a wage increase of 32c an hour to bring their rate to $1.70. The company offered a rate of $1.47 and six paid holidays. The strike was terminated on July 7, with reported agreement on a rate of $1.50, with six paid holidays.

Montreal Tramways Co. Acquisition

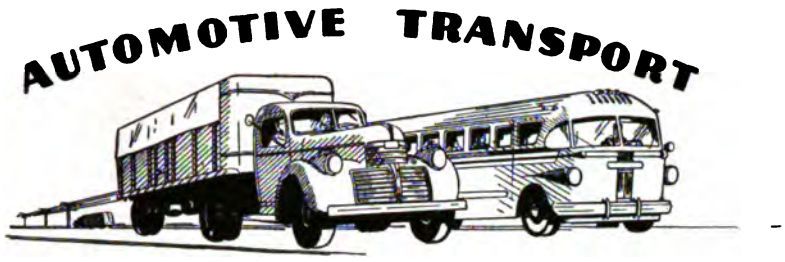
The City of Montreal authorities are taking plenty of time about proceeding under the legislation provided by the Quebec Legislature a few months ago, giving the city authority to acquire the Montreal Tramways Co. property. A Montreal press report of July 11 said that the city legal department had completed, on the preceding day, the draft of a proposed bylaw for the setting up of a transportation commission. It was also stated that a meeting to discuss this proposed bylaw will likely be called for August 1. The Quebec provincial government is to name the chairman of the proposed transportation commission. Prime Minister Duplessis of Quebec is quoted as warning against speculation in the shares of Montreal Tramways Co.

London Votes Against L.S.R. Purchase

Although London, Ont., ratepayers voted in favor of public ownership of transportation in the city last December, in a vote on July 18 they defeated a proposal for purchase of the London Street Railway Co. shares, by 3,[illegible] votes to 2,584. The bylaw voted upon was for the issuance of twenty-year debentures for borrowing $1,62[illegible] for purchase of the L.S.R. Co. shares for $1,325,000 and for providing an additional $300,000 to cover costs of acquisition of L.S.R. liquid and fixed assets. Out of about 25,000 ratepayers qualified to vote, only 5,712 voted.

New Trolley Coaches For Montreal

In the period June 15-July 15, Canadian Car and Foundry Co., Ltd., Automotive Division, delivered 13 model T-44, 44-psgr. trolley coaches to Montreal Tramways Co.



Maritime Trucking Association Organized

Completion of organization of the Canadian motor transport industry in provincial trade associations was finally effected recently, by the formation of a truck association representative of the three Maritime Provinces. The new body, the Maritime Motor Transport Association, has applied for membership in the Canadian Automotive Transportation Association.

A Maritime Trucking association embracing trucking firms in New Brunswick, Nova Scotia and Prince Edward Island, was established at Moncton, N.B., recently, when trucking executives from three provinces attended an organizational meeting in the Brunswick Hotel.

The delegation, representing some 250 maritime trucking firms, unanimously passed a resolution bringing into existence the Maritime Motor Transport Association. For the first time in its 30-year development, the Canadian trucking industry is organized in provincial trade associations from Atlantic to Pacific.

The accent was on youth as the delegates elected the M.M.T.A.'s first president, 29-year-old E. Lyle Wallace, Secretary Treasurer and Manager of Wallace Warehouse and Cartage, Ltd., Moncton.

William Greenwood, of Maritime Warehousing and Transfer Co., Halifax, was elected Vice President of the M.M.T.A.; the Secretary-Treasurer is Mrs. Mary Parsons Johnston of Halifax Transfer Co. Ltd., Halifax.

The following additional directors were elected:—

New Brunswick—Curtis Bonnyman, Tuck's Transfer, Moncton; A. Claude Buraglia, Buraglia Transfer Ltd., Bathurst, N.B.; Wm. C. McBeath, Jr., of McBeath Cartage Co., Ltd., Moncton.

Nova Scotia—Joseph Francis, Sydney Transfer and Storage, Sydney, N.S.; Clyde Cooke, Cooke's Transfer, New Glasgow, N.S.; Clarence Thompson, Thompson's Transfer, Middleton, N.S.

Prince Edward Island—Keith MacKinnon, MacKinnon Transfer, Charlottetown, and one other director to be appointed.

Establishment of the M.M.T.A. eliminated an embarrasing void in the framework of trucking management organization. Provincial trade associations representing trucking management have long carried on their work in the other provinces—Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia. These six provincial trucking associations, embracing a membership of more than 5,000 trucking firms, are all members of the trucking industry's national trade association, the Canadian Automotive Transportation Association. With the formation of a Maritime association a major objective of C.A.T.A., emergence of the M.M.T.A. immediately strengthened C.A.T.A.'s hand in three ways, viz.:—

(1) the M.M.T.A. asked that membership in the C.A.T.A. federation be formally approved at the next meeting of the national Association's Directorate.

(2) the M.M.T.A. empowered the C.A.T.A. to speak nationally on behalf of the Maritime trucking industry.

(3) the M.M.T.A. unanimously "relies upon and supports" the C.A.T.A. submission presented on behalf of trucking last November to the Royal Commission on Transportation.



Delegates at the Organizational Meeting of Maritime Motor Transport Association.
Picking out some of the trucking personalities in this group of Maritime operators who attended the organizational meeting of the Maritime Motor Transport Association . . . from left to right among those seated . . . third from left (light coat) Jack Kingston, Newcastle, N.B., President of the 220-member Northumberland Truckers' Association. Immediately to the right of Mr. Kingston is Al Girourd, Moncton, N.B., President of the Moncton Truckers' Association. In the centre is E. Lyle Wallace, Moncton, President of the newly-organized M.M.T.A., covering New Brunswick, Nova Scotia and P.E.I. To his right is Mrs. Mary Francis Parsons, Halifax, N.S., Secretary-Treasurer of the M.M.T.A. Next two on the right are L. F. Wallace of Moncton, father of the M.M.T.A. president and organizer of the meeting, and John Magee, C.A.T.A. Executive Secretary. Standing (extreme right) is William Greenwood, Halifax, M.M.T.A. Vice President.



Mr. Magee Congratulates President Wallace of M.M.T.A.

Prior to the resolution establishing the M.M.T.A., John Magee, Toronto, C.A.T.A. Executive Secretary and Director of Public Relations, addressed the meeting on behalf of the national trucking organization. Mr. Magee paid high tribute to L. F. Wallace of Moncton, president of Wallace Warehouse and Cartage, Ltd. and father of the M.M.T.A. chief. "Had it not been for his innumerable letters, telephone calls, and personal visits, there would be no meeting of the Maritime truckers in Moncton tonight," said the C.A.T.A. spokesman. "He has given of his best in an unselfish organizational effort. The C.A.T.A. is tremendously indebted to Mr. Larry Wallace and I know that the entire trucking industry will always look back with gratitude at his initiative which made this meeting possible."

Mr. Magee also paid tribute to the organizational work of Jack Kingston, Newcastle, N.B., president of the 220-member Northumberland Truckers' Association, and to Al Girouard, President of the Moncton Trucker's Association. As leaders of these two management organizations, both men were playing an important role in stabilizing and promoting trucking conditions in their areas.

Mr. Magee reported on the manner in which trucking interests are being protected and advanced by C.A.T.A. and its affiliated associations. At the provincial level, the C.A.T.A. spokesman discussed not only regulation of rates and entry into the trucking field but particularly what might be done to secure less extreme weight limitations in the three Maritime provinces.

At the national level, he reviewed C.A.T.A.'s public relations programme as it had been developed from a humble beginning in January, 1947.

At the time of the meeting, the Royal Commission on Transportation had not completed its hearings in Ottawa, and Mr. Magee told of the staff requirements and tremendous cost and effort which had been required to present the case of the motor transport industry before the Commission. He was critical of the mileage limitations for the motor transport industry which had been suggested to the Commission on behalf of the railways, and also of the suggestion advanced on behalf of railway employees that public commercial vehicles should not be permitted to engage in intercity transport and routes parallel to a railway. He offered full co-operation of the Canadian Automotive Transportation Association with the newly-formed Maritime body.

Preliminary to a campaign to bring all Maritime motor transport operators into the Maritime Motor Transport Association, the directorate is to draw up a constitution to be submitted for approval of the membership, and a basis for the assessment of dues is to be decided. Mr. Magee, in answering a question from the floor at the organizational meeting, strongly advised the employment of a full-time executive officer to carry on the new Association's work.

Delegates attending the organizational meeting of the new association appear in the larger of the two accompanying illustrations. In the smaller illustration, Mr. Magee of the C.A.TA. congratulates the President of the newly-formed association, E. Lyle Wallace, while Mr. Wallace's father, L. F. Wallace, looks on proudly.

Flxibles To Be Built in Canada

Introduction of new models of Flxible coaches this year will be coupled with manufacturing for the first time of that widely known line in Canada, as a result of arrangements which have been established between the Flxible Company, of Loudonville, Ohio, and the White Motor Company of Canada Limited. White's post war plant at Montreal will carry out exclusive production in Canada, and White's sales branches will handle distribution.



The 1950 **Flxible Visicoach**
Note the new and longer panoramic window sash, the stainless steel fluted side panels and the SweepStream ventilator intake.

"The Flxible buses will have a very high Canadian content, and we are anxious to get into production as soon as possible," stated L. M. Hart, President of the White Company. "We plan to produce all the Flxible models in Canada, including the new Visicoach. The standard coach will be the first to go into production. Our association with Flxible in the Canadian automotive field should go a long way towards expanding White activities in buses across Canada. Our new plant in Montreal is well equipped to handle this additional work. Eight factory-owned branches across Canada will provide adequate sales, parts and service facilities for Flxible coaches from coast to coast."

As a result of the New Flxible alliance with White, Canadian operators of the Flxible coaches will be able to order service parts directly from the Parts Division of the White Motor Company, who will maintain a comprehensive inventory.

The New Visicoach.—Of wide interest in the bus field this year is the introduction by Flxible of the new Visicoach. In stressing the innovations of this line of coaches, the manufacturer points out that they have been changed completely and improved in more than 86 major ways. Visicoach models will be built in 25-passenger intercity, 29 passenger intercity, 33-37 passenger suburban express and sight-seeing models.

A primary feature of the Visicoach is the full panoramic side windows which extend 64 inches, giving much improved visibility for all passengers and bringing a greater amount of exterior daylight into the coach. From this feature the name "Visicoach" is derived. The full exterior extruded aluminum flutings join the new fresh air ventilation grilles at the front. These intake grilles have an impact air area of over 115 sq. in. each, assuring maximum front-end ventilation closely controllable by the driver.

All models are much more massive than before. Length, height, and headroom have all been increased. The rear luggage sections have approximately 132 cu. ft. capacity, with a luggage door 35 inches wide and 50 inches high. With the increasing popularity of Flxible air conditioning, this additional rear end space gives ample room for both an air conditioning system and all normal luggage requirements.

The interiors have been restyled, with improved illumination, and with stepwells trimmed with aluminum fluting. The seats have mohair of a new color and new design.

Trucking Industry in the Canadian Economy

By John Magee, Executive Secretary and Director of Public Relations, Canadian Automotive Transportation Association.

It is said in transportation circles that the trucking industry has reached maturity. In years, yes, but the industry is still young. It is still possessed of a dynamic urge to pioneer, the urge to develop and expand into spheres of operation where the patronage of the shipping public proves its services are required. The word pioneer is a rather glamorous substitute for the word work and I can tell you that much work— hard work—has gone into the building of trucking companies, large and small, throughout Canada. The executives of our industry have been busy, increasingly so, as the industry's growth has continued. They have had little time during these years of continuous growth to tell the public of their achievements, of the job they have been doing for Canada, or even of their problems.

I assure you, however, that there is a story to tell. The trucking industry has a record of public service of which it has every right to be proud. From a humble beginning little more than a quarter of a century ago it has developed and expanded to a point where it is now a vital component of our transportation machine.

In 1922, there were only 37,600 trucks in operation on city streets and highways. At the end of 1948, the last year for which a figure is available, no less than 487,000 trucks were serving Canadians.

Those 487,000 trucks were trucks of all kinds, small and large, the majority of them privately-owned by those using them in their own business. Although a majority of these trucks were in city collection and delivery service, a substantial number were engaged in inter-city highway transport.

Trucks or truck-trailer combinations operated for compensation—what we refer to as the 'for hire' trucking industry—numbered 43,000 in 1948. An estimate prepared by my Association for the Turgeon Royal Commission on Transportation showed that in 1948 between 20,000 and 30,000 trucks or truck-trailer combinations were operated in inter-city service by Canadian trucking companies.

There is no doubt about the reaction of shippers to truck service. They are the consumers of freight transportation and increasingly year by year they have demonstrated that they prefer truck service and want more of it.

The figures tell the story. Of the 487,000 trucks, 43,000 were operated for compensation while 440,000 were operated locally or in long-distance haulage by the shippers themselves.

Shippers are using truck transportation for the same reason that any one of us buys a competitive service or product. You and I will patronize a service or product because we are convinced that we are getting something better or getting it at a lower cost. Sometimes we enjoy both advantages in our purchase. The shipper who purchases transportation is no different. There are no mysterious thought processes in the selection of the transport agency to carry his goods. He is not interested in academic discussion arising from the competitive relationship of the various forms of transportation. He chooses the transport agency which will serve him best at the lowest overall cost.

We in the trucking industry believe that the shipper is the best judge of his own transportation requirements. We further believe that the shipper should remain the arbiter of his transportation services, retaining his present freedom to use the transportation agency of his own choice. The trucking industry is not asking that Canada's transportation system be cut up like a cake with one piece for us and another for some other form of transportation. Such an arrangement would bring state security to the transportation industry. Each form of transportation would relax in its own tight sphere of monopoly. Service would deteriorate and the cost to the public would rise.

Of course, there is no way of cutting up the transportation cake and giving a piece to each of the agencies —let us say one piece to the trucking industry and another piece to the railroad industry—without depriving the shipper of his basic rights as a consumer. He would no longer be free to choose his own transport agency. He could not be left with that freedom. He would have to be told through the decrees of the all-powerful State that for certain services he would use one form of transportation, for certain services another. He would be compelled to use a particular form of transportation whether it suited him or not, regardless of the disruption or damage his business might suffer.

This is what some people call integration of transportation, a very plausible-sounding panacea but clearly one which cannot be implemented without tearing down the fabric of our

competitive enterprise system.

As anyone is aware, the trucking industry has not garnered all the freight traffic of the nation. The railways are still in the predominant position from the standpoint of annual tonnage volume and they probably always will be because of their unique ability to marshal the traffic and move it en masse.

But mass transportation, vital as it is to our national economy, is no longer sufficient. It ceased to be the be-all and end-all in transportation in the early 1920's. Industry was progressing. It was adopting new methods. The low inventory system came in and merchants ceased to order the large stocks which they used to carry on warehouse shelves for months at a time. As hand-to-mouth buying became prevalent, a vast increase in the frequency and speed of freight service was required. The truck was the unique answer to that need just as the railway answered the need for mass transportation. As the size of shipments diminished under the impact of the low inventory system, the truck operator with his smaller carload unit possessed a natural advantage over the established forms of transportation. This was during a period when the railways were increasing the size and capacity of their box cars with each successive year.

The depression accelerated the changes which were taking place within industry itself. Those who were slow to heed these changes were now compelled to do so. By carrying stocks in small quantities merchants could effect vital economies in the conduct of their business and the necessity of much arranging of credit with the banks was eliminated. Freight traffic was literally driven to the highways as shippers were compelled to overthrow the basic concept of mass movement upon which transportation had been predicated since the early nineteenth century. Through the use of trucks merchants saved millions of dollars in inventory reduction. The trucking industry was well on its way to establishment in the 1920's but it was the depression of the 1930's which "made" the industry as we know it today.

The trucking industry continued to grow except for several of the worst years of depression; truck registrations, tonnage volume, and gross revenues increased annually throughout the 1930's.

Of course, the warehousing industry did not decline as a result of inventory reductions made possible by fast, frequent truck service. Indeed, the situation has been very much the reverse. The warehousing industry was never in such a strong position as it is today and it continues to play an indispensable role in the national economy. As the depression gave way to World War II, and war gave way to a peace-time boom, a large volume of new business developed which the warehousing industry, with its keen sense of service, was quick to attract. The strength of the warehousing industry's position is due to its alertness and adaptability to change, qualities which are the prerequisites of successful operation in a competitive enterprise economy.

The depression compelled shippers to obtain not only faster and more frequent freight service but service at lower cost. Again the truck and truck-trailer provided an answer. The truck has given shippers faster transportation on most hauls than they have ever received before. It has provided them with a complete door-to-door movement of merchandise which no other form of transportation has been able to equal. Packing requirements have been less stringent than those of other forms of transportation because of the efficient shock absorption features of trucks and a smaller carload unit more suited to the load. How much shippers have saved by the reduction of packing and crating costs is not known but, as in the case of inventory reduction, it is a safe estimate that the savings have run into millions of dollars. At the same time there has been less loss and damage of freight. Schedules are flexible and are designed to meet the needs of the shipping public rather than the convenience of the operator. Even when highway freight rates have reached the same level as railway rates the service advantages of the truck have rendered the overall cost of transportation cheaper.

The rate or charge for service rendered is an important factor in the overall cost of transportation but it is not the only factor. The consummation of a sale of some article may depend on the speed with which delivery to the salesman is effected. The amount of goods which the merchant must have on hand is a cost factor which is regulated by the standard of transportation service. Packing and crating are transportation costs and without careful consideration of the method of transportation these costs may be so high that they exceed the freight rate.

I cite these facts to show how the service advantages of the truck are a very important factor in reducing the cost of transportation.

The trucking industry has reached its present position in the national economy on the basis of the **service** it has rendered the public. It is true that the trucking industry has charged lower rates than other forms of transportation—and when that is possible in the public interest there is no excuse for doing otherwise. But when the cost and value of service has justified the same rates as other forms of transportation— or even higher rates—the trucking industry has charged those rates and has retained the traffic.

Shippers have saved millions of dollars on truck rates but the trucking industry did not rise to its present position by being a cut-rate agency of transportation. If rate competition has been unduly emphasized by others as the explanation of the trucking industry's success, the intent may have been to screen the facts regarding our service to the public. Yet service is the real explanation of our success and we are confident that it will carry the trucking industry much further along the transportation road than the point we have reached today.

An interesting study was made at the end of World War II by the Association of American Railroads. It was a study to develop information regarding post-war competitive conditions. The Association of American Railroads sent a questionnaire to shippers asking them to state the primary reasons for their use of common, contract and private trucking services. The questionnaire dealt with the movement of merchandise and the replies were given separately for inbound and outbound traffic. On the inbound traffic, shorter transit time was given by 78 per cent of the shippers as their reason for using trucks. Lower costs were cited by 12 per cent. A variety of other reasons, particularly less handling, less marking and packing, and less loss and damage was cited by 10 per cent of the shippers.

The Railroad Association's study uncovered similar preferences on the outbound traffic.

Again, shorter transit time was the overwhelming preference of shippers, 73 per cent giving this as their reason for using trucks. Lower costs were cited by 12 per cent and 15 per cent cited a number of other reasons such as pick-up and delivery, less handling, and more personal service.

By offering a service that the shipper wants and needs and by providing that service at a comparatively low overall cost, long-distance trucking has become a stable and prosperous industry. Its position is indicated by a study which has been prepared for my Association by the Transportation Division of the Dominion Bureau of Statistics.

That study covers all provinces and deals with the financial results of 587 'for hire' trucking firms in 1948, the last year for which figures are available. Each of these 597 trucking firms had annual gross revenues of $20,000 or more. Their combined gross revenues amounted to $68,322,636. Their net revenues were $5,611,731 or expressed as a percentage, 8.2%.

It takes little imagination to know what trucking firms have done with their earnings. It is the typical story of competitive enterprise. They have taken their earnings and ploughed them back into the industry—into better wages and working conditions, into new equipment, into operating improvements such as teletype which

now links the terminals and branch freight depots of many trucking companies, large and small, throughout Canada.

You know that that is what has been done with earnings because I think you are all aware that trucking has grown into big business from very small beginnings. I suppose every one of the 597 trucking firms which the Bureau of Statistics studied began with one truck and grew from there. They grew not merely because shippers wanted the service they could provide; that, after all, is only the dry economics of growth. There is a human side to this story of growth. It is the story of men who put their capital into a humble start, got behind the wheel of a truck, and staked their brains and ability on a future whose promise they considered bright.

That a representative of the trucking industry has been invited to address this Rotary Club of Montreal is part of the evidence that that promise has been fulfilled. Motor transport people right across Canada will note with pride that your Club saw fit to honour some of the men who pioneered the trucking industry by seating them at your head table today.

These men and other trucking executives who are here have helped to build an industry which today embraces some 18,000 individual firms, which operates 43,000 truck or truck-trailer combinations, and which gives direct employment to some 70,000 drivers and terminal workers.

Speaking of those 70,000 employees I think you will find that in wages and working conditions the trucking industry is discharging its social responsibilities adequately, to say the least. Take, for example, the Ontario-Quebec interprovincial route, Toronto to Montreal.

This route, a distance of 351 miles by highway, is one of the most important avenues of commerce in Canada. A recent survey of wage payments, during a six-week period, to drivers on that route will, I think, be of interest to you. During that six-week period the average earnings of transport drivers on the Toronto-Montreal run amounted to $85.00 per week. It should be pointed out that the six-week period was one in which freight traffic volume was at an annual peak. However, I think it will interest you to know that at no time during the year do drivers on the Toronto-Montreal run earn less than $70.00 per week.

Trucking is an industry which has its roots deep in the nation's economy. When I tell you that in Canada there are 14,000 communities which have no direct railway service, that 50 percent of those communities are further than five miles from their nearest railway station, you will appreciate what the trucking industry means to thousands of Canadian.

Here in Montreal, where you are so well served by all forms of transportation, highway freight services radiate in all directions—to Ontario, to all points in the Province of Quebec, to the Maritime provinces and the New England States. Furniture is moved by truck from Montreal to all points on the North American continent. With the completion of a hard-surfaced trans-Canada highway we will meet the specialized need of shippers for long-distance freight haulage.

We in the trucking industry like to be sure, when we discuss our use of the nation's highways, that the public understands that trucks do not ride free over those highways.

One of the provincial trucking associations affiliated with the Canadian Automotive Transportation Association has looked into this matter in the Province of Quebec. At hearings of the Turgeon Royal Commission on Transportation in Ottawa, the Canadian Association's submission was supplemented by a brief filed by Mr. Camille Archambault, Executive Secretary of the Automotive Transport Association of Quebec. Under examination by Commission counsel, Mr. Archambault testified that last year, in Quebec, the provincial government received from users of the highways registration fees and gasoline taxes amounting to $39,000,000. In behalf of Quebec's trucking industry, Mr. Archambault pointed out that of that amount trucking firms had contributed $11,000,000 to the provincial treasury.

That testimony indicates that the trucking industry, whose public service vehicles are but a small minority of all the motor vehicles in Quebec, is paying its fair share of the cost of construction, maintenance, and administration of the provincial highways.

I would also point out that the trucking industry in this province, as in others, does not carry whatever weights it desires in its trucks. The weight of the load is limited by law according to the type of vehicles, whether it be a truck or truck-trailer. Because there are always a few operators who will risk jeopardizing our relations with the public by overloading their trucks beyond the prescribed limits, the provincial government employs inspectors to enforce the regulations regarding the maximum weights which may be moved over the highways.

The provincial highway engineers are the men who decide what weights the highways will stand and their decisions, translated into law, are enforced by the inspectors. The weight which may be carried on each axle is specified so that the gross weight is scientifically distributed over as many axles as are required to avoid damage to the highways. That is why an extra axle and an extra set of double wheels on the trailer or truck will render it legally permissible to carry a heavier load than on single axles.

As for the work of the inspectors whose job it is to enforce the weight regulations, the Canadian Automotive Transportation Association takes the same position as its contemporary organization, the American Trucking Associations. There is no pussy-footing about our attitude. We know that damage to highways is not caused by the vast majority of trucking firms who conform with legal weight limits that highway engineers prescribe. Damage to highways is caused by a few irresponsible trucking firms who overload beyond the legal weight limits. The Canadian Automotive Transportation Association supports the work of the inspectors in every province whose job it is to stamp out overloading. If there is any practical co-operation we can offer those who deal with this matter we are always ready and willing to provide such co-operation.

The few trucking firms which occasion that statement cannot detract from the reputation of responsibility enjoyed generally by the industry.

That reputation of responsibility has stuck in the crop of those who are not very enthusiastic about the development of the trucking industry. From time to time their old chestnut is trotted out about the trucking firms operating only in the summer and leaving the transportation job to others during the winter. The Canadian Automotive Transportation Association roasted that chestnut at the Royal Commission hearings in Ottawa and if ever I was confident of anything it is that it will not find its way into the Royal Commission report.

The Automotive Transport Association of Quebec pointed out in its supplementary brief that although that statement had a modicum of truth fifteen years ago, it is not true today.

What is true is that Quebec's trucking industry was the pioneer and promoter of winter road maintenance in this province and put its own money into a snow removal program which benefitted all users of the highways, passenger and freight.

In 1946, the last year for which a figure is available, 8,000 miles of highway were maintained for use in this province, almost double the mainline railway mileage.

The trucking industry does not run away from bad weather conditions or the disasters attendant on those and other conditions. The Co-ordinator of Civil Defence at Ottawa could tell you better than I of the vital role of British Columbia's trucking industry during the floods of 1948. He could tell you how much greater the Manitoba flood disaster would have been had the capacity of truck transportation not been available twenty-four

hours a day. He could tell you of the relief and good cheer which came to others when truck-trailers rolled down the main street of fire-scarred Rimouski and Cabano.

The trucking industry has acquitted itself well in the face of these and other challenges. The challenge of the future—whatever the future may bring—will not find us wanting.

(The foregoing address by Mr. Magee was presented before the Rotary Club of Montreal recently.)

New GM Warehouse for Montreal Area

General Motors Products of Canada, Ltd., is beginning the construction of a combined warehouse and district office for the Montreal area, in St. Laurent municipality; there will be a building of 74,000 sq. ft. on a site of nearly five acres.

To provide still better service to owners of General Motors cars and trucks through the immediate availability of parts and accessories, construction of a combined warehouse and district office for the Montreal area, by General Motors Products of Canada, Limited, on Cote de Liesse Road, at Decarie Circle, in the municipality of St. Laurent has been undertaken, and the new facilities should be ready for occupancy late this year, according to an announcement by E. J. Umphrey, GM's Director of Sales. Heretofore, the Montreal District headquarters have been at 1162 Crescent Street, Montreal.

The new building will cover 74,000 square feet, and, in addition to providing a new home for the General Motors district office, will provide facilities for the handling of service parts and accessories to General Motors dealers throughout the Provinces of Quebec and Eastern Ontario. It will be conveniently located just off the main traffic circle en route to Dorval Airport, so that shipments by transport in or out of the warehouse may be expedited without undue traffic delays. In addition a railway spur will be built into the property.

The new one-story structure, of modern design, will bring to nine the number of GM parts and accessories warehouses across the Dominion. Others are at Moncton, London, Winnipeg, Saskatoon, Regina, Edmonton, Calgary, and Vancouver. These warehouses are responsible for maintaining the company's rapid and complete parts replacement service for owners of GM cars and trucks in all parts of Canada.

When completed and in full operation, it is estimated that the new warehouse will stock quantities of 30,000 different parts and accessories. Plans are completed to equip the warehouse with the latest bin and rack and handling equipment—in brief, the most modern facilities available to ensure quick and efficient handling. The Teletype communication will be in effect at all times with the huge factory warehouse at Oshawa, Ont., so that there will be minimum delay in obtaining even the most uncommon part or accessory.

Of particular interest, also, to General Motors vast ownership, company officials stress that G. M. dealerships are adequately stocked with more commonly required replacement items, which will be continually maintained so that owners of General Motors cars and trucks in all localities may obtain replacements without inconvenience or delay.

Personnel of the warehouse and district office is expected to number close to 100. General Motors has purchased nearly five acres in all, and the roof of the new structure will cover one and three-quarter acres, leaving a considerable area for future use, should expansion of facilties become necessary.

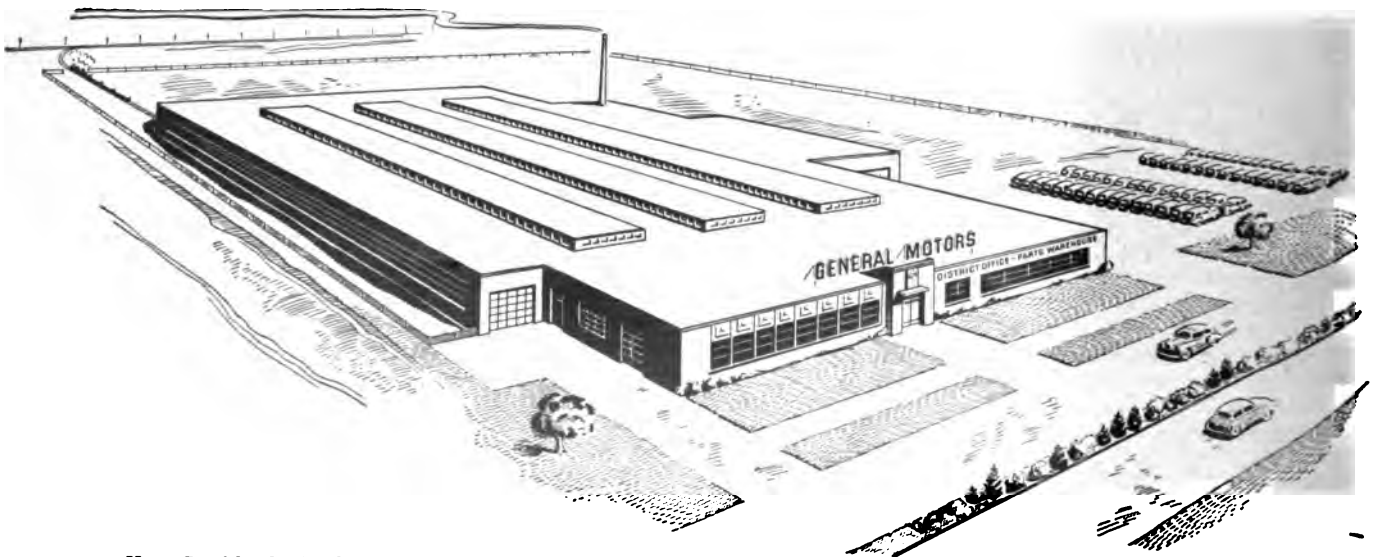
Production Record By Ford

Ford Motor Co. of Canada, Ltd., made and sold more automobiles and trucks in the first half of 1950 than in any preceding half year in its history, and output and sales in June shattered all monthly records. According to R. M. Sale, President,, production in the first six months of this year was 28% greater than in the same part of 1949. In the first six months of this year the production was 72,553 vehicles, compared with 67,917 in the whole year 1938 and 61,015 in the whole year 1939. The record production for any year was established last year, with 112,130 vehicles.

All production records for a single month were broken in June, when 14,741 vehicles were turned out, an increase of 1,247 over the output of May, the previous record month. Until May this year, the record for a month's production had been 12,967 vehicles, made in August, 1928. Mr. Sale reports that the Canadian demand has been responsible for the high production and sales so far this year, as overseas shipments have been taking a relatively small part of output. In prewar years, exports ran up to as much as 45% of output, but the export proportion is now below 13%.

Of the June production of 14,741 vehicles, 9,446 cars and 3,779 trucks were for Canadian customers and 1,079 cars and 437 trucks for export, chiefly to Australia and South Africa. In the first half of this year, the Canadian market absorbed 46,070 cars and 17,508 trucks of the 72,553 vehicles produced, while 8,975 vehicles were for export.

In addition to vehicles of its own



New Combined Warehouse and District Office of General Motors Products of Canada, Ltd., for Montreal Area
This architect's drawing shows how the new facility will appear upon completion, late this year.

manufacture, the company sold in Canada in the first half of this year a total of 6,680 passenger cars and 1,333 light commercial vehicles imported from Ford Motor Co., Ltd., of Dagenham, England.

Notable Sight-seeing Coach for Montreal

A recent shipment from the plant of Motor Coach Industries, Ltd., Winnipeg, was a "Skyview" model 50 Courier coach, consigned to Murray-Hill Taxis, Ltd., Montreal. As accompanying illustrations show, this coach is admirably fitted for sight-seeing work.

A MODEL 50 Courier coach, designated as a "Skyview" vehicle, was recently delivered to Murray-Hill Taxis, Ltd., Montreal, by Motor Coach Industries, Ltd., Winnipeg. This sight-seeing coach, the first of its type, is for operation in tours in and around Montreal. The coach is a 33-psgr. one, of de luxe type, designed for intercity and suburban service. It is of rear engine type, and powered with a 451 cu. in. engine developing a maximum of 162.2 h.p. at 3,000 r.p.m., with torque of 354 ft. lb. at 1,000 r.p.m. Compression ratio is 6:1.

The coach has wheelbase of 180½ in., with overhang at front of 67¾ in. and overhang at rear of 102½ in., measured over the bumpers in both cases. Width over all is 96 in., and height ready for the road, with gasoline and spare tire, is 118 in. Body headroom is 75 in. Height from floor to glass vision line is 34 in. Weight of the vehicle, ready for the road, is 14,500 lb. The weight distribution places approximately 35% on the front axle and 65% on the rear.

The engine is fitted with a large heavy duty oil cooler which prevents crankcase oil breakdown due to heat; it holds the oil temperature at near constant and reduces gum formation, giving that extra assurance and measure of safety required in rear engine applications. As in all of the builder's Courier coaches, the engine and transmission are easily removed as a unit on a special roller cradle assembly.

Containing all of the best features of the recent Courier coaches, and additional advantages peculiar to this "Skyview" type, the coach has approximately 180% more glass area than is usual, with plastic roof, which is also available in Solex glass. Clearer vision is made possible by deeper side windows of sliding type. Ample ventilation is provided by three adjustable roof ventilators with 18 x 24 in. openings.

Rubber-insulated suspension at all shackle mountings, with specially designed type of individual replaceable rubber bushings, greatly improves the riding qualities of the coach, in addition to materially lengthening the lift of the springs. Ample baggage area is provided amidships, contributing to passenger comfort and convenience. In the seating arrangement, there are seven double standard seats at each side of the aisle, and a five-psgr. rear chesterfield seat, and ample leg room for all passengers is provided. Aisle seats are available for the accommodation of additional passengers. A wide choice of materials and colors for seat covering is provided. The exterior color scheme for this coach is white, with green trim.



Interior of Murray-Hill Taxis, Ltd., "Skyview" Coach

GMC Truck and Coach Deliveries

Advice from General Motors Corp. Truck and Coach Division, Pontiac, Mich., July 7, was that a gradual strengthening of the motor coach market was revealed in delivery and sales figures on that date. In June, the company delivered 214 motor coaches, June having been the second consecutive month in which shipments exceeded 200 units.

As of July 1, the company had unfilled orders for 526 coaches from a total of 69 operators, and it was stated:—"This widespread buying indicates that transportation operators have adjusted themselves to postwar higher wage and material costs and are proceeding to rehabilitate their systems with new and more economical-to-run motor coaches."

Of the 214 coaches shipped in June, 172 were for city operation and 42 for intercity work.

The company reports that Diesel power continues to lead in the larger coaches. All vehicles of more than 31-psgr. capacity shipped from the beginning of the year to the end of June were powered with two-cycle Diesel engines. At the end of June the company estimated that there were over 21,500 of its Diesel-powered motor coaches in operation on some 530 transportation properties, this being about 25% of all common carrier motor coaches in operation.



The "Skyview" 33-Psgr. Courier Coach Supplied Murray-Hill Taxis, Ltd., Montreal, by Motor Coach Industries, Ltd., Winnipeg.

Many Vehicle Shipments in May

In May this year, factory shipments of Canadian-made motor vehicles totalled 35,281 units, compared with 26,386 in April and with 26,708 in May, 1949, according to advice from the Dominion Bureau of Statistics, Industry and Merchandising Division. The shipments were made up of 10,633 commercial vehicles, viz., 10,594 trucks (9,626 for domestic sale and 968 for export) and 39 coaches or buses (all for domestic sale), and 24,648 automobiles (22,108 for domestic sale and 2,540 for export). In addition, there were shipments in May of 1,783 motor vehicles imported from the United States, comprising 304 commercial vehicles and 1,479 automobiles.

Following is the record of commercial motor vehicle shipments in May:—

Maximum Gross Vehicle Weight in pounds	Made-in-Canada Vehicles For Sale in Canada	For Export	Total	Vehicles imported from U.S.
5,000 and less	4,671	402	5,073	245
5,001-10,000	2,303	155	2,358	12
10,001-14,000	749	177	926	...
14,001-16,000	1,553	229	1,782	1
16,001-19,500	231	...	231	3
19,501-26,000	153	5	158	13
Over 26,000	66	...	66	30
Total trucks	9,626	968	10,594	304
Total coaches or buses	39	...	39	...
Total commercial vehicles	9,665	968	10,633	304

Shipments in First Five Months

In the first five months of this year, factory shipments of Canadian-made motor vehicles totalled 150,382 units, compared with 110,019 and 105,820 for similar periods in 1949 and 1948, respectively. These were made up of 41,551 commercial vehicles, comprising 41,408 trucks (37,881 for domestic sale and 3,527 for export) and 143 coaches or buses (all for domestic sale), and 108,831 automobiles (100,384 for domestic sale and 8,447 for export). There were also shipments of 1,874 commercial motor vehicles and 6,268 automobiles imported from the United States.

Following is the record of commercial motor vehicles shipments in the first five months of this year:—

Maximum Gross Vehicle Weight in pounds	Made-in-Canada Vehicles For Sale in Canada	For Export	Total	Vehicles imported from U.S.
5,000 and less	18,960	938	19,898	1,383
5,001-10,000	8,267	678	8,945	289
10,000-14,000	3,049	1,077	4,126	...
14,001-16,000	5,601	829	6,430	14
16,001-19,500	1,249	...	1,249	9
19,501-26,000	505	5	510	66
Over 26,000	250	...	250	113
Total trucks	37,881	3,527	41,408	1,874
Total coaches or buses	143	...	143	...
Total Commercial vehicles	38,024	3,527	41,551	1,874

William Noble of M.A.T.A. and C.A.T.A., Dies

The automotive transport industry in Canada lost a leader and hard worker on July 6 in the death of William Noble of Winnipeg, whose contribution to the development of Canadian trucking, at both provincial and national levels, was outstanding. Mr. Noble was one of the founders of the Canadian Automotive Transportation Association, at the beginning of 1937, and was instrumental in drafting the Association's constitution. He served as Secretary-Treasurer of the Association for many years, and regularly attended its annual meetings. He had been identified with the Manitoba Automotive Transporation Association from its inception, and continued to serve that body as legal advisor up to the time of his death.

In December, 1947, he retired from active participation in C.A.T.A. affairs and was honored at a board of directors meeting then in session, by being appointed an honorary life member of the C.A.T.A. Directorate.

He was called into service by C.A.T.A. on October, 1949, when he was brought to Toronto by the national Association to attend an emergency directorate meeting called to write the final draft of the trucking industry's brief to the Turgeon Royal Commission on Transportation. This was his last active contribution to the work of the national Association, although his interest in C.A.T.A.'s programme remained constant.

He was Secretary-Manager of the Manitoba Automotive Transportation Association for many years and also its legal counsel. During his tenure as the M.A.T.A.'s permanent executive officer the membership grew, and in 1948 he was able to retire as Secretary Manager, leaving the affairs of the Association in a strong position. He was honored at the M.A.T.A's annual banquet in December, 1948, with the presentation of a gift and an illuminated address culminating his year of service as Secretary-Manager.

Continuing to serve as M.A.T.A.'s legal counsel, he fought several important legal battles on behalf of Manitoba's trucking industry in 1949 and early in 1950.

Western Flyer Coach, Ltd., Deliveries

In the period from the middle of June to the middle of July, Western Flyer Coach Ltd., Winnipeg, made the following commercial bus and coach deliveries:—To Saskatchewan Transportation Co., two 32-psgr. Western Flyer intercity coaches; to J. B. H. Gauthier, of Deschambault, Que., one 36-psgr. intercity coach; to Canadian Coachways, Ltd., Edmonton, one 32-psgr. intercity coach; to Northern Bus Lines, Flin Flon, Man., one 33-psgr. city type coach; to Northland Arrow Lines, Edmonton, one 32-psgr. intercity coach; to White Pass and Yukon Route, Whitehorse, Y.T., one 32-psgr. intercity coach; to Manitoba Motor Transit Ltd., Brandon, Man., one 32-psgr. intercity coach equipped with two-way radio telephone.

Aluminum Bridge Opened

With appropriate ceremony, the highway bridge of aluminum construction, over the Saguenay River, at Arvida, Que., was opened officially on July 16. Among those present at the function were Prime Minister Duplessis of Quebec; Quebec Roads Minister A. Talbot; R. E. Powell, President, Aluminum Co. of Canada, and Donald Gordon, C.M.G., Chairman and President, Canadian National Railways. The new bridge was described fully in an illustrated article in our issue of December last, pg. 688.

Welles Corp. New Branches

Recent announcement by J. L. Kirkhope, Vice-President, Sales, Welles Corp., Ltd., Windsor, Ont., is that the company has opened two new branch offices, one in Montreal to serve the Quebec territory, and the other at Fredericton, N.B., to serve the Maritimes and Newfoundland.

Welles Corp. manufactures Welles-Wayne all steel school bus and adult coach bodies, Welles-Marmon-Herrington transit buses, Welles-Thornton 2 Axle Drive installations, and Third Trailing Axle installations.

Provincial Transport Co. New Terminal

Agreement was reached early in July between Provincial Transport Co., Montreal, and the City of Montreal, for purchase by the company from the city of land at Demontigny and Berri streets, in Montreal, for use as the site of a bus terminal to cost approximately $500,000. It is stated that work on the new terminal will begin as soon as architect's plans are completed.

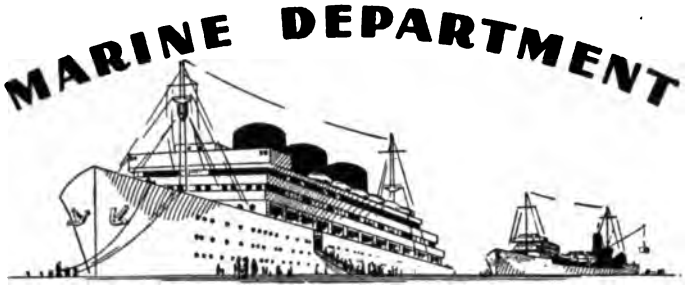
Propane-powered Buses Delivered

Among first deliveries of the new 125 octane propane-powered buses of Twin Coach manufacture, were six 52-psgr. buses for Asbury Rapid Transit System, Glendale, Calif.

A recent statement by L. J. Fageol, President, Twin Coach Co., is that the company is now engaged in production on propane-powered vehicles for twenty major transit properties.

Twin Coach Deliveries

In May, Twin Coach of Canada, Ltd., delivered two model 41-S city type buses to Uplands Bus Lines, Ottawa; one model 44-S city type bus to Toronto Transportation Commission, and three similar buses to Edmonton Transit System; 10 model 38-S suburban coaches to British Columbia Electric Ry. Co., Vancouver.



National Harbours Board 1949 Activities

This review of the work of the National Harbours Board last year supplements the summary of operations and results which appeared in our May issue; figures record that the business of the harbours administered by the Board continued to expand, there having been increases over 1948 in ship arrivals and departures, net registered tonnage of arriving and departing ships, foreign and domestic cargo tonnage, gross earnings and total income, together with decrease in net income deficit after meeting all charges, including interest due the Dominion Government.

THE annual report of the National Harbours Board for the calendar year 1949, submitted to the Minister of Transport as required by Section 32 of the National Harbours Board Act, and tabled in the Commons, deals with the 1949 operations of the Board at the harbours of Halifax, Saint John, Chicoutimi, Quebec, Three Rivers, Montreal, Churchill and Vancouver, and the Dominion Government grain elevators at Prescott and Port Colborne, and also with the Jacques Cartier Bridge at Montreal and the Second Narrows Bridge at Vancouver. As in preceding years, the Board's operations are divided into two sections in the report; first, the seven harbours (those above listed except Churchill) which were administered by local commissioners prior to 1936, and second, the Prescott and Port Colborne elevators and Churchill Harbour, which were turned over to the Board for operation at the beginning of 1937. In addition to presenting figures covering the Board's operations as a whole, its report gives separate figures for the two groups of facilities.

Ship Arrivals and Departures

At all harbours administered by the Board, ship arrivals (excluding naval craft) last year totalled 44,067, representing net registered tonnage of 34,723,963, and ship departures were 43,958, representing net registered tonnage of 34,738,922. There were more ship arrivals and departures last year than in any one of the preceding four years; figures for each year in the five-year period follow.

	Number of Ships	Net Registered Tonnage
Arrivals—		
1949	44,067	34,723,963
1948	43,627	33,006,672
1947	42,876	29,856,603
1946	39,823	26,878,748
1945	38,467	29,046,089
Departures—		
1949	43,958	34,738,922
1948	43,175	33,002,902
1947	42,692	29,986,725
1946	39,955	26,899,044
1945	38,724	29,196,004

(Exclusive of naval ships)

Cargo Figures

Aggregate cargo tonnage handled in 1949 at all harbours administered by the Board was 33,713,796, compared with 31,783,586 in 1948, the increase having been 1,930,210 tons, or approximately 6%. While foreign traffic inward decreased from 9,412,452 tons in 1948 to 8,966,194 tons last year, foreign traffic outward was up from 9,418,245 tons in 1948 to 10,045,211 tons. Domestic traffic inward increased from 8,834,079 tons in 1948 to 9,731,343 tons, and domestic traffic outward was up from 4,118,810 tons to 4,962,048 tons. The result was that total traffic inward increased from 18,246,531 tons in 1948 to 18,697,537 tons, and total traffic outward from 13,537,055 tons to 15,016,259 tons. The principal increase was in grain, which, counting inward as well as outward movements by water, increased from 4,575,440 tons in 1948 to 8,266,173 tons last year, an increase of 3,690,733 tons, or 81%. Also, there were substantial increases in the traffic in petroleum and its products, anthracite, cement and iron ore. Decreases were recorded in the movement of bituminous coal, lumber, pulpwood, logs, wood pulp, wheat flour and general cargo. The tonnage increases quoted are exclusive of non-revenue ballast, bunkers, ships' stores, mail and passengers' baggage. Following is a statement of cargo tonnage handled at the harbours administered by the Board in 1949 and each of the four immediately preceding years.



R. K. Smith, K.C.,
Chairman, National Harbours Board

Cargo Tonnage, 1945-1949

Basis: Tons—weight (2,000 lbs.) or measurement (40 cu. ft.)

	Inward (Tons)	Outward (Tons)	Total (Tons)
Foreign—			
1949	8,966,194	10,054,211	19,020,405
1948	9,412,452	9,418,245	18,830,697
1947	8,367,607	11,295,790	19,663,397
1946	6,629,129	10,873,318	17,502,447
1945	6,798,404	13,396,284	20,194,688
Domestic—			
1949	9,731,343	4,962,048	14,693,391
1948	8,834,079	4,118,810	12,952,889
1947	7,561,578	3,938,832	11,500,410
1946	6 516,001	3,153,572	9,669,573
1945	7,257,650	2,630,609	9,888,259
Total—			
1949	18,697,537	15,016,259	33,713,796
1948	18,246,531	13,537,055	31,783,586
1947	15,929.185	15,234,622	31,163,807
1946	13,145,130	14,026,890	27,172,020
1945	14,056,054	16,026,893	30,082,947

(Exclusive of ballast (non-revenue), bunkers, ships' stores, mail and passengers' baggage)

Financial Results

Included in this review is the consolidated income statement of the Board for the calendar year 1949, the figures applying to all facilities under the Board's jurisdiction. Exceeding those of any preceding year, operating revenues of all units combined were (cents omitted) $14,072,697, compared with $12,830,784 in 1948, an increase of $1,241,913, or nearly 10%. The chief factor in this favorable showing was the increase in grain traffic referred to above. The volume of grain handled in the nine elevators operated by the Board was 72% greater than in 1948, and earnings rose correspondingly. The increase in revenue from grain elevators, including rentals, was $1,625,000. Also, toll bridges were respon-

sible for the substantial increase of $144,000. These gains were partially offset by reductions in the earnings of wharves and piers, terminal railways and cold storage warehouses. Because of the decline in general cargo, the receipts of wharves and piers were about 5% below those of 1948.

Expenses of administration, operation and maintenance in 1949 were $8,160,622, as against $7,608,578 in 1948, an increase of $552,044, or 7%. Operating expenses of grain elevators increased upwards of half a million dollars. Increased wages were also a factor in bringing current expenses to a record level. Outlay on maintenance of properties was $2,064,000, only slightly less than in the previous year.

Operating income in 1949 showed a gain of $689,869, the comparable figures being $5,912,075 in 1949, as against $5,222,206 in 1948.

After taking into account debits and credits to income and charging interest and reserve for replacements, operations for 1949 resulted in a net income deficit of $1,493,517. This compares with a deficit of $2,042,353 in 1948. The deficit, therefore, decreased by $548,836, or 27%.

Tariffs of Charges

On August 1 last year, certain upward revisions in grain elevator charges became effective, in conformity with maximum rates authorized by the Board of Grain Commissioners for Canada. Also, terminal railway charges at Vancouver were increased in some respects, effective September 1 last. Otherwise, harbour charges were unchanged, notwithstanding increased costs of operation and maintenance.

Results for Seven Harbours Forming the First Group of Facilities

Last year, the seven harbours forming the first group of facilities under the Board's jurisdiction, as explained above, viz., Halifax, Saint John, Chicoutimi, Quebec, Three Rivers, Montreal and Vancouver, had aggregate operating revenue of $13,066,488, compared with $12,179,849 in 1948, the increase having been $886,639, or 7%. Expenses of administration, operation and maintenance increased from $6,937,573 in 1948 to $7,376,641, or by $439,068, or 6%. Operating income was up from $5,242,276 in 1948 to $5,689,847. After taking into account income debits and credits and charging interest and reserve for replacements, there was a net income deficit of $1,833,957 for the seven harbours, in 1949, compared with one of $2,212,52[illegible] in 1948, but special contributions in respect of the Montreal Harbour Bridge reduced the net income deficit for last year to $1,717,375, compared with $2,022,604 in 1948. Herewith, in an accompanying two-column table, we present the consolidated income statement for this group of seven harbours for 1949 and each of the four preceding years.

Prescott—Port Colbourne—Churchill

The consolidated income statement for the facilities comprising the second group under the Board's jurisdiction, viz., the Dominion Government grain elevators at Prescott and Port Colborne, Ont., and the harbour at Churchill, Man., is presented here also, comparative figures for 1949 and each of the four preceding years being given. Last year, these facilities had operating revenues of $1,006,209, compared with $650,935 in 1948. Operating

Consolidated Income Statement
Harbours of Halifax, Saint John, Chicoutimi, Quebec, Three Rivers, Montreal & Vancouver

	1949	1948	1947	1946	1945
Operating Revenues	$13,066,488	$12,179,849	$11,267,227	$11,113,296	$12,840,538
Operating and Maintenance Expenses	7,376,641	6,937,573	6,464,097	6,051,075	6,433,449
Operating Income	5,689,847	5,242,276	4,803,130	5,062,221	6,407,089
Miscellaneous Credits (Net)	**120,911**	**36,708**	22,938	111,928	54,497
Total Income	5,568,936	5,205,568	4,826,068	5,174,149	6,461,586
Interest Due Public	832,285	1,001,232	1,019,872	1,040,497	1,012,700
	4,736,651	4,204,336	3,806,196	4,133,652	5,448,883
Other Income Requirements—					
Reserve for Replacements	1,928,002	1,922,470	1,941,557	1,938,590	1,934,562
Interest due Government	4,642,606	4,494,394	4,577,116	7,062,765	7,049,368
	6,570,608	6,416,864	6,518,673	9,001,355	8,983,930
	1,833,957	**2,212,528**	**2,712,477**	**4,867,703**	**3,535,047**
Deduct—					
Special Contributions to Deficits (Bridge — Montreal)	116,582	189,924	282,346	300,000	300,000
Net Income **Deficit**	**1,717,375**	**$2,022,604**	**$2,430,131**	**$4,567,703**	**$3,235,047**



The Harbour of Montreal

Consolidated Income Statement
Prescott and Port Colborne Elevators and Harbour of Churchill

	1949	1948	1947	1946	1945
Operating Revenues	$1,006,209	$650,935	$563,682	$408,255	$555,285
Operating and Maintenance Expenses	783,980	671,005	546,677	415,531	417,799
	222,229	20,070	17,005	7,276	137,486
Other Debits and Credits (Net)	1,628	321	3,064	15,301	8,911
Net Income Surplus or Deficit	$223,857	$19,749	$20,069	$3,025	$146,397

and maintenance expenses were $783,980 last year, compared with $671,005 in 1948. A surplus of $223,857 was earned by this group of facilities last year; in 1948 there was a deficit of $19,749. The large improvement last year originated in the operations of the Prescott and Port Colborne grain elevators, which enjoyed a volume of business more than double that of 1948. At Churchill, activity was slightly greater than in 1948, the 1949 grain shipments having been 5,500,000 bush., carried by a total of 16 ships. Inward foreign cargo at the port was 2,000 tons. The accounts for the facilities in this group do not include charges for interest or reserve for replacements, other than a small amount for interest on capital expended since these units were transferred to the Board.

Capital Expenditures

The Board began work last year on several new major construction projects which will involve total expenditure, to completion, of about $5,750,000. These works include a new pier at Halifax, wharf and shed reconstruction at Quebec and wharf reconstruction and shed addition at Montreal. Expenditures incurred in 1949 on these and other capital and replacement works amounted to $4,837,091, of which $4,726,510 was charged to capital and $110,581 to reserve funds. The distribution of these expenditures was as follows.

Capital—		
Halifax		$1,899,432
Saint John		1,473,057
Quebec		575,522
Three Rivers		2,163
Montreal		561,694
Port Colborne		7,040
Churchill		192,461
Vancouver		15,141
		4,726,510
Replacement of Physical Assets—		
Saint John	$ 47,000	
Quebec	52,484	
Montreal	9,549	
Churchill	300	
Vancouver	1,248	
		110,581
		$4,837,091

Capital expenditures by the Board are financed from advances made to the Board by the Dominion Government, upon deposit of certificates of indebtedness bearing annual interest of 2¾%.

The book value of the Board's fixed assets as of December 31, 1949, was $231,051,123.

Finances

On November 1 last, $19 million of Harbour Commissioners of Montreal 5% bonds, which were not due until November 1, 1969, were called for payment. These bonds had been issued to pay for the construction of the Jacques Cartier Bridge in Montreal Harbour. Funds for redemption of the bonds were advanced by the Dominion Government in the amount of $20,049,750, to provide for the principal, redemption premium and exchange.

In respect of the Board's financial requirements relating to the year 1949, amounts were received from the Government as follows:—1949 capital expenditures, $4,726,510; for retirement of debt, Saint John, N.B., $85,000; for retirement of debt, re Jacques Cartier Bridge, $20,049,750; to meet Churchill Harbour deficit, $83,141; total, $24,944,401.

On the other hand, the Board paid to the Government $3,033,606, made up as follows:—Interest on advances, $2,800,023; surplus earnings of Port Colborne elevator in 1948, $62,022; repayment of advances, $171,561.

Reserve Funds

At the end of 1949, reserve funds for replacement of physical assets (as accumulated from the beginning of 1936) and for insurance and workman's compensation totalled $28,188,352, such funds having been increased in 1949 by $2,384,779. These reserves consist of cash on deposit with the Receiver-General ($796,436) and investments in authorized securities, with book value of $27,391,916 and market value of $27,947,778. In the pension fund at the end of the year was $3,280,520, this having been on deposit with the Receiver-General. In addition, miscellaneous funds, including provision for special maintenance, were held in the amount of $776,823, made up of $132,584 on deposit with the Receiver-General, and authorized investments with book

National Harbours Board
Consolidated Income Statement for the Calendar Year 1949

Operating Revenues—			
Harbour General—			
Harbour Dues	$ 238,933.65		
Cargo Rates	712,674.32		
Miscellaneous	616,388.38		
		$ 1,567,996.35	
Wharves and Piers—			
Top Wharfage	3,005,266.13		
Dockage	774,117.94		
Miscellaneous	419,354.36		
		4,198,738.43	
Permanent Sheds—			
Shed Rentals	499,813.82		
Storage	190,658.47		
Miscellaneous	113,892.97		
		804,365.26	
Shed Hoists		33,036.00	
Railway System		892,943.57	
Grain Elevator System—			
Elevation	2,261,674.86		
Storage	975,694.33		
Rentals	262,078.43		
Miscellaneous	246,298.99		
		3,745,746.61	
Cold Storage System—			
Storage	676,487.92		
Miscellaneous	223,686.50		
		900,174.42	
Miscellaneous — Outsiders		555,763.10	
Bridge Tolls and Sundry Receipts		1,373,933.17	
			$14,072,696.91
Operating Expenses—			
Administration		1,105,575.81	
Operation and Maintenance—			
Harbour Dredging	181,171.70		
Harbour General	1,008,526.59		
Vehicular Bridges	6,603.16		
Roads, Fences and Boundaries	65,528.29		
Sewers and Drains	12,559.43		
Wharves and Piers	430,591.97		
Permanent Sheds	613,317.44		
Shed Hoists	31,590.49		
Railway System	1,159,974.74		
Grain Elevator System	2,168,489.90		
Cold Storage System	688,696.62		
Miscellaneous Outsiders	437,420.25		
Bridges	200,575.13		
		7,055,045.71	
			8,160,621.52
Operating Income			5,912,075.39
Income Received from Investments and Reserve Funds		777,688.60	
Miscellaneous Income Credits		162,281.34	
			939,969.94
Total Income			6,852,045.33
Miscellaneous Deductions from Income—			
Income received from Reserve Funds transferred to Reserves		776,553.36	
Reserve for Bad Debts		1,010.78	
Miscellaneous Income Charges		191,566.25	
Trustees' Fees, Commissions, Bond Discount, etc.		23,068.52	
Bond Redemption Expense and premium on U.S. Funds		65,929.82	
			1,058,128.73
Income Available for Interest due Public			5,793,916.60
Interest on Debt to the Public			832,285.24
			4,961,631.36
Other Income Requirements—			
Reserve for Replacements		1,761,847.00	
Reserve for Depreciation		166,154.63	
Interest due Dominion Government		4,643,729.18	
			6,571,730.81
			1,610,099.45
Deduct:			
Special Contributions to Deficit (Bridge-Montreal)			116,582.12
Net Income **Deficit**			$ 1,493,517.33

value of $644,239 and market value of $660,880.

As provided by Section 31 of the National Harbours Board Act, separate accounts are kept for each harbour or property, and the revenues of each are assigned exclusively for its own purposes.

Financial Results of Each Facility

Figures are presented in the following, showing, for each harbour, elevator or bridge operated by the Board, the operating revenues, operating expenses and operating income or deficit for the years 1941-49 inclusive. For corresponding figures for the years 1936-40 inclusive, readers are referred to our July, 1947, issue, pg. 413.

	Operating Revenues	Operating Expenses	Operating Income
Halifax Harbour			
1941	$1,593,478	$ 803,052	$ 790,426
1942	1,832,318	889,120	943,198
1943	1,848,330	1,000,664	847,666
1944	1,801,217	1,116,104	685.113
1945	1,653,732	1,033,935	619,797
1946	1,243,649	834,713	408,936
1947	1,161,261	800,168	361,093
1948	1,270,564	862,529	408.035
1949	1,300,605	893,699	406,906
Saint John Harbour			
1941	$ 776,066	$ 264,971	$ 511,095
1942	1,133,509	319,114	814,395
1943	1,492,579	440,134	1,052,445
1944	1,423,537	512,482	911,055
1945	1,458,507	494,698	963,809
1946	933,497	459,627	473,870
1947	945,198	488,756	456,422
1948	805,364	472,365	332,999
1949	715,423	501,163	214,260
Chicoutimi Harbour			
1941	$ 30,339	$ 16,100	$ 14,239
1942	30,067	16,887	13,180
1943	32,016	25,880	6,136
1944	31,923	18,402	13,521
1945	30,723	20,719	10,004
1946	32,666	17,178	15,488
1947	40,573	21,407	19,166
1948	50,310	20,512	29,798
1949	58,386	19,440	38,946
Quebec Harbour			
1941	$ 710,867	$ 583,546	$ 127,321
1942	620,030	760,012	139,932*
1943	762,644	643,458	119,186
1944	913,705	669,903	243,802
1945	944,190	797,714	146,476
1946	672,264	678,427	6,163*
1947	627,732	691,609	63,877
1948	684,128	833,283	149,155*
1949	871,022	813,289	57,733
Three Rivers Harbour			
1941	$ 243,911	$ 38,930	$ 204,981
1942	185,738	22,603	163,135
1943	199,023	18,011	181,012
1944	224,933	55,489	169,444
1945	294,648	32,165	262,483
1946	229,882	29,822	200,060
1947	235,765	50,242	185,523
1948	219,712	43,264	176,448
1949	213,745	45,194	168,551
Montreal Harbour			
1941	$5,174,415	$2,214,748	$2,959,667
1942	3,797,440	2,167,596	1,629,844
1943	3,786,305	2,039,507	1,746,798
1944	4,698,030	2,212,488	2,485,542
1945	5,484,859	2,928,685	2,556,174
1946	4,897,323	2,937,201	1,960,122
1947	4,990,919	3,083,883	1,907,036
1948	5,608,899	3,186,639	2,422,260
1949	6,272,697	3,663,798	2,608,899
Jacques Cartier Bridge, Montreal			
1941	$ 589,768	$ 105,870	$ 483,898
1942	537,406	102,903	434,503
1943	520,120	97,020	423,100
1944	600,237	99,098	501,139
1945	604,629	105,422	499,207
1946	730,701	113,337	617,364
1947	835,097	118,779	716,318
1948	974,764	129,372	845,392
1949	1,104,921	141,727	963,194
Prescott Elevator			
1941	$ 215,606	$ 86,126	$ 129,480
1942	233,718	82,399	151,319
1943	112,691	74,418	38,273
1944	257,750	110,575	147,175
1945	195,723	119,422	76,301
1946	111,911	101,812	10,099
1947	136,750	119,687	17,063
1948	120,037	160,253	40,216*
1949	264,004	150,155	113,849
Port Colborne Elevator			
1941	$ 164,167	$ 79,937	$ 84,230
1942	171,280	3,100	98,180
1943	129,905	74,153	55,752
1944	239,703	97,106	142,597
1945	292,777	145,711	147,066
1946	223,631	140,494	83,137
1947	208,871	142,265	66,606
1948	252,185	189,414	62,771
1949	485,718	293,881	191,837
Churchill Harbour			
1941	$ 70,267	$ 102,499	$ 32,232*
1942	144,782	139,348	5,434
1943	95,860	132,372	36,512*
1944	71,028	128,635	57,607*
1945	66,785	152,666	85,881*
1946	72,713	173,225	100,512*
1947	218,061	284,725	66,664*
1948	278,712	321,337	42,625*
1949	256,487	339,944	83,457*
Vancouver Harbour			
1941	$1,476,586	$ 568,309	$ 908,277
1942	1,568,977	588,502	980,475
1943	1,736,959	670,930	1,066,029
1944	2,138,666	916,767	1,221,899
1945	2,199,550	956,434	1,243,116
1946	2,184,238	918,664	1,265,574
1947	2,206,235	1,142,027	1,064,208
1948	2,311,011	1,293,633	1,017,378
1949	2,260,677	1,209,250	1,051,427
Second Narrows Bridge, Vancouver			
1941	$ 143,955	$ 55,201	$ 88,754
1942	161,535	58,193	103,342
1943	144,645	61,024	83,621
1944	137,585	62,037	75,548
1945	169,701	63,677	106,024
1946	189,076	61,925	127,151
1947	224,447	67,226	157,221
1948	255,096	95,974	159,122
1949	269,012	89,082	179,930
All Units			
1941	$11,189,428	$4,919,289	$6,270,139
1942	10,416,805	5,219,781	5,197,024
1943	10,861,081	5,277,574	5,583,507
1944	12,538,318	5,999,089	6,539,229
1945	13,395,824	6,851,249	6,544,575
1946	11,521,551	6,466,606	5,054,945
1947	11,830,910	7,010,775	4,820,135
1948	12,830,784	7,608,578	5,222,206
1949	14,072,697	8,160,622	5,912,075

* Deficit.

Balance Sheet

The assets side of the Board's consolidated balance sheet as of December 31, 1949, records fixed assets of $231,051,123.12 and current assets of $6,082,022.78, together with other items as follows:—investments, $44,759.36; security deposits, $959,706.53; replacement fund, $26,098,480.29; fire and general insurance fund, $1,577,995.28; general workmen's compensation, $511,876.64; pension fund, $3,280,519.62; miscellaneous funds, $776,822.89; bond discount and redemption suspense account re Jacques Cartier Bridge, $1,216,451.62; prepaid charges, $20,211.08; deferred debits, $98,553.15.

On the liabilities side are debenture indebtedness to public, $671,282.35; Dominion Government account, $234,345,132.66; accounts payable, construction, $649,052.47; construction contractors' holdbacks, $557,168.55; current liabilities, $31,049,531.95; contractors' security deposits-contra, $959,706.53; reserves, $37,350,531.38; deferred credits, $238,895.32; surplus and deficit account debit, $34,102,778.85.

Details of Fixed Assets

In the following are listed the fixed assets of the National Harbours Board as at December 31, 1949.

Harbour Dredging	$12,249,552.51
Real Estate	12,777,971.59
Vehicular Bridges	300,394.92
Roads, Fences and Boundaries	1,800,858.18
Sewers and Drains	679,479.06
Miscellaneous Structures	756,924.27
Wharves and Piers	89,358,528.16
Permanent Sheds	20,633,861.55
Shed Hoists and Electric Cranes	248,972.88
Railway System	7,103,673.01
Grain Elevator System	41,863,174.00
Cold Storage System	5,757,749.04
Office Furniture and Appliances	163,610.04
Harbour Buildings	777,030.13
Central Heating Plants	152,443.36
Harbour Shops	326,579.11
Electric Power System	1,176,316.44
Water Supply System	763,350.49
Floating Equipment	2,018,341.22
Shore Equipment	915,749.51
Miscellaneous Small Plant	570,219.78
Engineering—General Surveys	606,402.98
Works under Construction	6,032,381.51
Sundry Expenditure—Undistributed	5,390,903.96
Bridge Construction and Right-of-Way	18,626,655.32

Board Personnel

R. K. Smith, K.C., is Chairman of the National Harbours Board; J. E. St. Laurent, C.M.G., M.E.I.C., is Vice-Chairman, and B. J. Roberts, C.B.E., is a member. C. P. Buckley is Secretary; T. M. Bryson, M.B.E., Assistant Secretary; E. G. Cameron, M.E.I.C., Chief Engineer, and W. C. Perron, Traffic Officer.

The Board's officials at the various ports, etc., are: — Halifax, R. W. Hendry, M.B.E., Port Manager; Saint John, Russel Yuill, M.B.E., M.E.I.C., Port Manager; Chicoutimi, Albert Maltais, Port Manager; Quebec, Louis Beaudry, M.E.I.C., Port Manager and Chief Engineer; Three Rivers, J. R. Lariviere, Port Manager; Montreal, A. G. Murphy, M.E.I.C., Port Manager; Prescott, Alex. Ross, Superintendent; Port Colborne, C. A. Bennett, Superintendent; Churchill, W. N. Twolan, Port Manager; Vancouver, A. E. McMaster, O.B.E., Port Manager.

P.W.D. Marine Contracts

The Dominion Department of Public Works awarded contracts of marine interest in June as follows:—

For dredging at L'Ardoise Beach, N.S., to Harriss and Harriss, Sydney, N.S., at $26,761.84.

For harbour repairs and redredging at Thorah Island, Ont., to Russell Construction Co., Ltd., Toronto, at approximately $19,844.

For wharf reconstruction at Lake Memphremagog, Que., to Campbell Bros. and Thompson, Ltd., Montreal, at approximately $25,599.

For construction of floats at New Westminster, B.C., to Fraser River Pile Driving Co., Ltd., New Westminster, at approximately $16,639.40.

For harbor repairs and improvements at Ganges, B.C., to Pacific Pile Driving Co. Ltd., Victoria, B. C., at approximately $45,645.

For supply of coal for Department dredges in the Maritime Provinces, to A. C. Branch and Co., Bathurst, N.B. ($9,600); William Law and Co., Yarmouth, N.S. ($15,300); H. R. Large and Co., Charlottetown, P.E.I. ($12,732); A. Pickard and Co., Charlottetown ($34,054).

For construction of a wharf extension at Malagash, N.S., to R. A. Douglas, New Glasgow, N.S., at approximately $20,077.40.

For construction of ice break at East Port Le Hebert, N.S., to Mosher and Rawding, Liverpool, N.S., at approximately $12,297.60.

For dredging at Botsford, N.B., to Denis LeBlanc, Buctouche, N.B., at approximately $11,520.

For dredging at Oromocto Shoal, St. John River, N.B., to Saint John Dredging Co., Ltd., East St. John, N.B., at approximately $11,000.

For dredging at Richibucto Cape, N.B., to Denis LeBlanc, Buctouche, N.B., at approximately $9,040.

For harbour improvements at Belleville, Ont., to H. J. McFarland.

Construction Co. Ltd., Picton, Ont., at approximately $9,790.

For dredging at Leamington, Ont., to McNamara Construction Co., Ltd., Toronto, at approximately $91,630.

For supply and erection of a five-ton, electrically-operated hammerhead travelling crane on the Assembly Wharf, Port Alberni, B. C., to Western Bridge and Steel Fabricators, Ltd., Vancouver, at $49,249.

For breakwater reconstruction at St. Martin's, N.B., to Manson Construction, Ltd., Fredericton, N.B., at approximately $58,624.90.

For construction of breakwater at New Harbour, N.S., to The Atlantic Bridge Co., Ltd., Lunenburg, N.S., at approximately $15,872.50.

For wharf improvements (ferry wharf) and dredging at Dalhousie, N.B., to The Chaleur Construction Co., Ltd., Culligan, N.B., at approximately $39,391.

For breakwater repairs at Bay Fortune, P.E.I., to J. W. McMulkin and Son, Ltd., Upper Gagetown, N.B., at approximately $29,139.

For breakwater repairs at New Haven, N.S., to A. J. Campbell, J. A. Campbell and A. J. McIsaac, Inverness, N.S., at approximately $23,332.50.

For wharf reconstruction at Trois Pistoles, Que., to Beaudet and Fils, Quebec, Que., at approximately $35,-929.

New Rules for Tankers, Pumping, Piping

Revised rules for petroleum tankers, issued by Lloyd's Register of Shipping, are not only of great technical interest, but also represent the first unified rules for hull construction issued by Lloyd's Register of Shipping united with the British Corporation Register.

THROUGH the courtesy of N. Dobson, Principal Surveyor for Canada, Lloyd's Register of Shipping, the following information in regard to revised rules for oil tankers, and for pumping and piping, is made available to readers. These rules follow, after an interval of one year, Lloyd's revised rules for cargo and passenger ships.

The first Rules for Oil Tankers were published in 1909, and in 1925 a thorough revision was made. The earliest Rules applied to the system of construction universally adopted at the time, the transversely framed ship, while those which followed were related to the longitudinal system of construction commonly known as the Isherwood System. In the interval which has elapsed since those days important advances have been made in both the design of oil tankers and the technique of construction. The tanker with two longitudinal bulkheads has now almost completely replaced the older design in which summer tanks and a center line longitudinal bulkhead were fitted, and the system of framing has tended to become standard in two forms: the completely longitudinally framed system, and the combined system having longitudinally framed bottom and decks and vertically framed sides. The revised Rules are based on the Society's recent practice and experience with tankers of these types. Welding has assumed an ever increasing importance, and the new Rules refer basically to this form of construction; at the same time requirements are given for riveted connections.

The method used for tabulating scantlings is similar to that which has been adopted in the revised Cargo Ship Rules; the familiar "Lloyd's Numerals" have been replaced by the principal dimensions of the ship and the draught as parameters. Experience with the use of the Cargo Ship Rules has confirmed the expectation that this method is reliable and simple in operation.

In view of the severe corrosion suffered by tankers in certain trades, which has necessitated in many instances extensive repairs being carried out at a comparatively early stage in the life of the ship, some increases have been made to the thickness of bulkhead plating and other parts of the internal structure.

The Rules apply to ships from 240 to 620 feet in length, and their application should increase the structural efficiency and durability of tankers.

The revision has been made in consultation with a Panel of technical experts specially convened by the Technical Committee of Lloyd's Register, and representing the Industry both in the United Kingdom and other shipbuilding countries. The results of experimental investigations into the strength of oil tankers have also been kept in view.

An addition in metric units to suit the convenience of shipbuilders and ship owners abroad is now in course of preparation.

Revised Rules for Pumping and Piping

In the early days of wood and iron ships built to the Society's classification, reliance was placed on manually operated deck pumps for clearing the bilges of any accumulation of water in the holds and other compartments of the ship and on the use of sluice valves on the bulkheads to permit water to drain to the pumps in the engine room.

With the advent of larger ships and the use of water ballast, the use of power pumps increased, and in the course of time there developed bilge and ballast mains with their respective pumps.

Oil fuel, cargo oils, extensive arrangements for the carriage of fresh water for drinking, washing and boiler feeding, piping for the steam, compressed air, feed water, cooling water and lubricating oil systems and for the oil fuel burning installation added more complications to the piping arrangements.

The Society was in close touch with these developments and the requirements and rules for Pumping and Piping Arrangements were modified and enlarged from time to time.

As a result of these additions to the Rules, the various requirements were widely distributed among the sections dealing with the hull, steam engines, oil engines, and refrigerating installations. It was decided that the various requirements relating to Pumping and Piping should be contained in one section arranged in paragraph form for ready reference and that further modifications, dictated by experience and by altered practice in machinery installations, should be embodied in the new Rules.

The Technical Committee of Lloyd's Register appointed a Panel to draft these Rules in conjunction with the Chief Surveyors. This Panel consisted of Shipbuilders and Owners in the U.K., together with representatives of overseas Committees of the Society; the proposals were also circulated for comment to a large number of Shipbuilders and Marine Engineers throughout the world, thus ensuring that industry was fully consulted.

In due course the Panel reported to the Technical Committee of Lloyd's Register united with the British Corporation, who recommended to the General Committee that the new Rules for Pumping and Piping be accepted as unified Rules for the united Societies. The new Rules now published were approved by the General Committee on the 15th December, 1949.

The following is a brief summary of the major alterations:—

Bilge Pumping—The amended requirements for the bilge drainage of machinery spaces relate mainly to emergency bilge suctions which permit of continued drainage in the event of a break-down of the main bilge system.

Air and Overflow Pipes and Sounding Pipes—Minimum thicknesses have been given for these pipes and the sizes of the air and overflow pipes have been increased in order to diminish the risk of damage to the tanks when they are overflowing.

Oil Fuel Burning Installation—The main alterations relate to increased precautions against outbreaks of fire.

Pressure Pipes—The existing Rules for steel pipes have been completely revised to meet modern conditions of temperature and pressure and the hydraulic test pressures for various pipe systems have been simplified.

Fire Extinguishing System—Revised Rules are at present under consideration.

Aluminum in Shipbuilding

By R. Black, M.I.N.A., Naval Architect, Davie Shipbuilding and Repairing Co. Ltd.

Aluminum as part of the structure of a ship up until fairly recently has been considered something of a novelty, and although it is true that this material has been used in the construction of small craft and to some extent in the superstructures of larger vessels, these have been the exception rather than the rule, and on that account have been the subject of special comment.

It may well be that for some considerable time to come the all aluminum vessel will continue to be a rarity, but the technical and economical gap which at present exists between the steel and the aluminum hull is narrowing.

It is reasonably safe to say that were it not for the price differential between aluminum and steel, aluminum in ship construction would occupy our attention to a very much greater extent than it does at present.

With the continuing reduction in the size and weight per horse power of the marine power plant and the ever increasing use of welding, the centre of gravity of the modern vessel is appreciably higher than it was some fifteen to twenty years ago, and to maintain an adequate margin of stability aluminum superstructures have been adopted in many vessels, these being mostly passenger vessels with several tiers of passenger accomodation.

Generally information on the subject of aluminum in shipbuilding is not widespread and certain misconceptions are common; these being due mainly to early failures, where alloys unsuitable for marine corrosive conditions were used, or where the aluminum was used in association with other metals or materials without the necessary precautions being taken to prevent chemical or galvanic action.

It might be noted that Lloyd's Register of Shipping, recognizing the increasing use of aluminum in ship's structures, have recently added a section to their Rules and Regulations to cover this material, specifying that the aluminum shall have a minimum tensile strength of 17 tons per sq. inch, which can be obtained and which compares not unfavourably with the 26 tons minimum required for mild steel.

In selecting aluminum for marine work, the first consideration is the choice of an alloy which will stand up to the corrosive action of sea water—fortunately there are available alloys which are even less subject to corrosive attack than the mild steel ordinarily used. This aluminum alloy containing a small percentage of magnesium is identified in Canada as Alcan 65-S and is available in three grades, as indicated in Table No. 1.

TABLE NO. 1

Alloy & Temper	Minimum Ultimate Tensile Strength	Minimum Yield Strength	Minimum Elongation percent in 2"
Alcan 65S-O	22,000 lb./sq. in.		18
" 65S-W	30,000 " " "	16,000	16
" 65S-T	42,000 " " "	35,000	10

Plates are rolled in this material up to 60 in. in width, sections, angles, channels, etc. are extruded, the equipment necessary for the extruding of shapes being much simpler and less costly than steel mill rolls, permits variation of the geometric design of any particular extrusion within practical limits as may be considered most suitable for any particular application and it has been suggested that an extrusion similar to a bulb angle, but with greatly increased bulb of rectangular section might be an economical aluminum structural section suitable for shipbuilding.

The principal reason for the use of aluminum in shipbuilding is naturally the saving in weight, where such saving may enable the vessel to carry more passengers or provide better facilities, improve the stability or permit the vessel to proceed in restricted waters on a lesser draft than would otherwise be the case.

Several all-aluminum vessels have been built among which we in Canada may remark on the "Interceptor" an all-aluminum R.C.M.P. vessel designed by Messrs. German & Milne and built at Sorel in 1934; this ship is 65 feet long and has a speed of 18.5 knots, and is still in service in South America.

There also was built in 1940 the all-aluminum vessel "EDI"; this vessel is 103 feet long and has a speed of 28 knots.

Apart from the hull proper, aluminum has found many applications on shipboard, such as electrical fittings, bus-bars, ventilation trunking, furniture, bulkheading and as aluminum bronze alloys in high speed propellers due to the reduced pitting from cavitation which occurs with this alloy.

The most obvious characteristic of aluminum is its light weight compared to other structural materials, the weight of aluminum being 170 lb. per cu. ft. approximately, the second characteristic being the modulus of elasticity of aluminum which is about 10,000,000 or about one third that of steel—as a result of this low modulus of elasticity the deflection of an aluminum beam is three times that of a steel beam of identical cross section for a given load. However, as it is necessary to increase the scantlings of the aluminum beam to provide sufficient strength to carry the imposed load, we never do have this condition, consequently deflections of this magnitude do not occur.

Aluminum of a low Magnesium Silicon alloy such as 65-S, has a much higher resistance to sea water corrosion than has mild steel. Abrasion from coal and certain other materials is less with the proper grade of aluminum than it is with mild steel, damage from grabs during unloading would probably be more extensive on the aluminum structure.

It is worthy of note that Magnesium Silicon aluminum alloys are also more resistant to corrosion from some petroleum products than mild steel.

Aluminum has a higher co-efficient of thermal expansion than steel, but investigations would indicate that this difference is not likely to be of serious consequence.

The higher salt water corrosion resistance of aluminum has been mentioned, and in making comparisons with steel structures it should be borne in mind that certain increases in thickness of material have been common practice with mild steel members to allow for corrosion, and some reduction or elimination of the allowance may be possible with aluminum.

Aluminum has one particular characteristic which must never be lost sight of, namely, its tendency to corrode when associated with other metals and submerged in salt water.

Before this characteristic of aluminum had been forced on the attention of shipbuilders, several aluminum vessels had been constructed without the necessary precautions having been taken, with the result that serious galvanic action took place and the aluminum hull rapidly deteriorated, and to this we can largely attribute the belief that aluminum was not a satisfactory marine structural material.

Aluminum is anodic to most other common metals except magnesium and zinc, in other words in the presence of most other metals when im-

mersed in salt water, aluminum is corroded or eaten away; if magnesium or zinc, however is also immersed, the aluminum is protected at the expense of the magnesium or zinc, in the same way as a steel hull is protected in the vicinity of a bronze propeller by attaching zinc plates to the hull.

In order to protect the aluminum from galvanic action it therefore becomes necessary to insulate it from contact with dissimilar materials and as far as possible use the least "aggressive" metal in association with it.

Steel in contact may be galvanized or cadmium plated or stainless steel used; the stainless steel should be carefully selected as to composition. With galvanized bolts or steel there is the possibility under certain conditions that the galvanizing is corroded off, leaving the bare steel to attack the aluminum.

Chrome plating of brass or steel provides protection, but is not as effective as galvanizing. Bronze and copper alloys should be avoided if possible in association with aluminum.

In order to insulate faying surfaces, they are painted or coated with suitable paint such as zinc chromate, or coated with an elastic compound or a compound coated or impregnated rubber or fibre gasket; bolts and screws are dipped in compound and holes coated before closing. Oil varnishes containing zinc chromate and marine glue are also used between dissimilar materials, including surfaces between wood and aluminum. Further protection is afforded by suitably painting the exposed surfaces of dissimilar metals on the faying surfaces.

Every endeavour should be made to exclude salt water from joints between aluminum and other materials where necessary, by using a caulking compound such as Alumilastic to seal the joints.

Although the weight of aluminum is about one third that of steel, all this saving cannot be counted upon in considering an aluminum instead of steel structure—it has been found that when due allowance has been made for the deeper sections to provide strength and rigidity, the saving may be used to advantage in vessels of restricted draft and vessels where the revenue obtained by the additional facilities possible by adopting aluminum superstructures justify the additional capital charges.

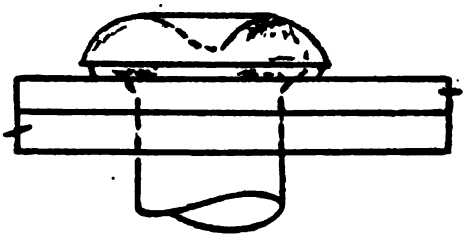
In the case of passenger vessels, the use of aluminum lifeboats and davits is of particular interest—these are of necessity both numerous and placed high on the vessel, and the saving in weight at such a height, in considering the stability of the vessel, is appreciable. The following approximate comparison between steel and aluminum beams of like geometric form illustrates the relation between aluminum and steel.

Based on 42,000 lb. ultimate tensile for aluminum and 58,200 for steel.

(a) An aluminum beam of the same resistance to deflection as a steel beam would be about 11% deeper.

(b) An aluminum beam of same stiffness, (i.e. resistance to deflection) would be about 33% deeper than the steel beam.

(c) An aluminum beam the same weight as a steel beam would be 70% deeper and would have about 3½



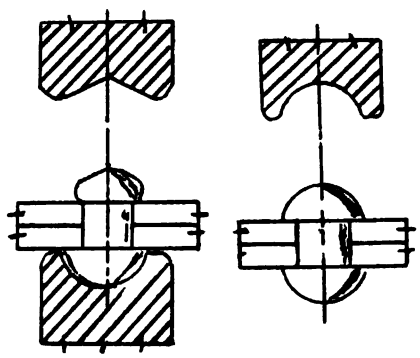
Annular Head Rivet.

times the strength and stiffness of the steel beam.

(d) An aluminum beam the same size as a steel beam would be about 75% as strong and 33% as stiff.

With an aluminum structure the necessary increased sectional area of the aluminum scantlings over those of the steel becomes available to resist vibration and fatigue.

The low modulus of elasticity of aluminum is also advantageous in resisting shock, the aluminum structure being much less liable to fracture than the steel, being better able to absorb blows. Permanent deformation will occur, but this in many instances may be preferable.



Left, Button Head Rivet. Right, Cone Head Rivet.

Mr. Corlett some time ago made a comparison between aluminum and steel for a cross channel vessel of 350 feet, having a speed of 21 knots and carrying 2140 passengers, and estimates the load of displacement as 1980 for aluminum and 2,845 for steel, a saving of 865 tons, giving a reduction of 1 ft. 9 in. on the draft and reducing the horsepower from 5,424 EHP to 3,960 EHP, a saving of 1,464 EHP.

In the machinery compartment, aluminum has been adopted for turbine gear casings, crankcases, combustion heads, cylinders, Diesel pistons, bearings, bus-bars, flooring, handrailing and numerous other fittings.

Fabrication of aluminum presents a few problems not common in working mild steel. Aluminum can be sheared, punched, drilled and sawn, but should not be flame cut. The sawing can be performed by woodworking circular or band saws with 4 or 5 teeth per inch, the familiar Doall band saw being very convenient for this purpose.

Aluminum alloys are indicated in Table No. 1, the "O", "W" and "T" designating "Fully Annealed, Solution Heat Treated and Solution Heat Treated and Aged" alloys respectively The "O" grade is the easiest form, but somewhat too low in strength to use as a structural material. The "T" grade is difficult to use in deep or acute forming, and it may be preferable to use the "W" grade in such cases and accept the lower strength. It is possible to heat treat either the "O" or "W" grade and so bring it to the "T" grade, but this requires very careful temperature control treatment within very close limits, and is probably better avoided by most yards.

Cold flanging requires a generous radius and joggling can be done, but a sharp joggle should be suspect. Joggling, bending, and bevelling can be done cold due to the softer material, but working hardens the material, but this can be overcome by heating to not more than 400°F; 65S-T can also be made more workable if heated to this temperature and worked hot.

The spring back in bending aluminum is very much greater than with steel bars. The tendency is for bars to twist and upstanding flanges to wrinkle and this calls for more care and more dogging of the sections to the bending slabs while working. Bevelling of frames can be done cold, but is very difficult with 65S-T aluminum. It is found that tool marks are much more evident in the case with steel; it would appear from the foregoing that where forming is necessary the fabrication cost would be higher for aluminum than for steel.

The prevalent method of joining the component parts of the structure is by riveting. Aluminum rivets, usually of Alcan 55S-T33, are driven cold up to ½ in. or ⅝ in. dia. by hand or by a squeeze rivetter and a rivetter and a hand gun heavy enough to drive a hot steel rivet about ⅜ in. larger is employed.

The rivets should be spaced closer than steel rivets about 1 diar. less—on the average the minimum being 3 diars.

Component parts should be well bolted up with bolts in every third hole, and in order to avoid creep it is sometimes recommended that the

rivets should be driven at random and not by commencing at one end of the work and proceeding steadily to the other, and the riveter should not return later to a driven rivet to tighten up.

For large rivets which must be driven hot, it is necessary to provide an oven having close temperature control.

It is not desirable to caulk, but if done should be a light caulk.

Where the point of the rivet is not countersunk, a cone head as shown in diagram is preferable for both power driven rivets. This head is much easier formed than the button head, is equally effective and reduces the marring of the aluminum by the rivet gun. Another type of head used successfully by the Dominion Bridge Company for hand riveting is the annular head, which is easier driven and of neat appearance.

Aluminum can be successfully welded by most of the methods commonly used for steel, but the most successful are those employing an inert gas shield over the weld, as it is formed. This is essentially the forming of an atmosphere at the weld of some gas which will not permit the molten aluminum to oxidize, the gases used being either Argon or Helium, and with these no flux is used. Equipment has been developed which automatically feeds aluminum welding rod, either continuously through a welding head, either manually or automatically operated, and at the same time pipes Argon or Helium gas through the welding head to surround the molten weld forming.

Other equipment employs a Tungsten electrode in an Argon atmosphere in a like manner, except, with this equipment, the electrode is not deposited in the weld, but merely maintains the arc, and an aluminum rod is hand fed into the weld as it forms.

The welding of aluminum is very much faster than that of steel, being about 4 times as fast. There is one drawback in welding aluminum and this is the very considerable reduction in the strength of heat treated or cold worked alloys in the vicinity of the weld, the reduced strength being somewhat as follows:—65S-T., 65%; 65S-W., 72%; 65S-O., 100%.

It should be borne in mind, however, that had the same materials been rivetted instead of welded and we assume a rivetted joint efficiency of 73%, the joints would have the following strengths shown in table No. 2.

TABLE NO. 2

ALCAN	TENSILE	RIVETTED JOINT: Joint having 75% Efficiency	WELDED JOINT: Efficiency	Strength
65S-T	42,000	30,500	65	27,000
65S-W	30,000	22,000	72	21,000
65S-O	22,000	16,000	100	22,000

This would appear to indicate that a welded structure using 65S-W might be as economical as a rivetted one in 65S-T, due to the angle connections necessary for rivetting.

It has already been mentioned that aluminum of the proper alloy is not attacked by salt water. It is necessary to paint the aluminum for appearance or to prevent bottom fouling. Ordinarily aluminum does not take paint as easy as steel, and in order to provide a good base or priming coat it is usual to apply zinc chromate, but, before doing so, on arrival of the material at the shipyard, it is washed over or dipped in a solution of phosphoric acid and washed over with water and given a coat of zinc chromate, red lead being unsuitable due to the bi-metal effect of the lead.

Some commercial anti-fouling paints have been found satisfactory, having no corrosive effect when applied over two coats of zinc chromate. Anti-fouling paints containing mercury or copper should not be permitted to contact the aluminum.

Filling pastes should avoid the lead compounds; zinc chromate in oil base type of filler is suitable.

If the proper methods are used it will be found that it is easier to maintain a paint surface on aluminum than on steel, and that after several years service the aluminum is in its original state below the paint and no extensive chipping or sandblasting is required.

In presenting these notes on aluminum, it is appreciated that much has been written by such men as Messrs, Muckle, Forrest, Goldsworthy and many others.

Covering the more scientific and mathematic aspect of the problem, and as the shipbuilders' and shipowners' interests are aroused in the use of aluminum, new problems will arise and new solutions will be found which may revise our present knowledge. Sufficient is however known at present to permit us to proceed without undue rashness to consider aluminum definitely a shipbuilding material.

A considerable amount of valuable research and information is available on the subject, and the following bibliography may prove helpful for those who wish to pursue the subject further:—

1. "Aluminum Alloys in Ship Construction" by M. G. Forrest. Trans. 1947, Society of Naval Architects & Marine Engineers.

2. "Resistance to Buckling of Light Alloy plates" by W. Muckle. N.E. Coast. Inst. of Engineers and Shipbuilders. March 1948.

3. "Aluminum and its Alloys in Ship Construction" by G. O. Taylor. The Metal Industry. March-April 1943.

4. "Resistance of Aluminum Base Alloys to Marine Exposures" by R. B. Mears and R. H. Brown.—Society of Naval Architects and Marine Engineers. November 1944.

5. "Shipbuilding and Light Alloys" by Capt. F. C. Goldsworthy. Institution of Engineers and Shipbuilders in Scotland—Year 1943.

6. "Aluminum for Ship Superstructures" by E. W. Lewis—Society of Naval Architects and Marine Engineers. March 1949.

7. "Structural Tests of Models Representing a Steel Ship," "Hull with Aluminum Alloy & Steel Superstuctures" by M. Holt.—Society of Naval Architects and Marine Engineers. March 1949.

8. "The Design of Light Alloy Ships Structures" by W. Muckle—Shipbuilder and Marine Engine Builder. January 1948.

9. "Aluminum Alloys for Marine Use" published in Shipbuilder and Marine Engine Builder. January 1948.

10. "Aluminum Alloys for Naval Use" by H. M. Stationery Office London.

11. The Various Handbooks published by Aluminum Company of Canada, Limited.

(The foregoing paper by Mr. Black was presented at the annual meeting of the Technical Section of the Canadian Shipbuilding and Ship Repairing Association.)

George T. Davie and Sons, Ltd.

The plant of George T. Davie and Sons, Ltd., at Lauzon, Levis, Que., has been quite busy during recent weeks. In addition to proceeding with the construction of a naval ship, the company had drydocked, to mid-July, more ships than in any preceding similar period. Early in July, the company contracted with the owners of the Ms. Fleurus, Anticosti Shipping Corp., to carry out a large repair job on the ship in minimum time. The entire bottom of the ship, which is 200 ft. long, was damaged when she ran aground off the Gaspe coast, and the repair work entailed the renewal of 38 plates, as well as the internals and other items affected by the grounding. A job of this kind would normally take about six weeks to complete. However, as the Fleurus is a cruise ship on regular schedule, and handles many tourists from the United States to fish for salmon on Anticosti Island, the owners were desirous of having their ship repaired and placed back in service with minimum delay. George T. Davie and Sons undertook to work night and day on the repair job and have it finished within 17 days, to enable the ship to be back in service for its cruise departure from Montreal on July 25, as scheduled.

Canal Traffic in May

May was a fairly active month for the Canadian canals system, with a total of 3,609,322 tons of freight handled through the canals, compared with 3,587,191 tons in May last year and with the record high for the month (established in 1942) of 3,946,215 tons.

With the coal movement accelerated, consequent upon the settlement of labor trouble in United States mines, shipments of this commodity through the Canadian canals picked up considerably, and May this year was a month of quite heavy water movement of this and other numerous commodities. While total ship passages through the canals declined from 3,165 in May last year to 3,071, with some decrease in registered tonnage, total freight handled was up from 3,587,191 tons in May last year to 3,609,322 tons in the month this year.

Sault Ste. Marie Canals.—Eastbound freight traffic through the Canadian lock at Sault Ste. Marie increased from 178,383 tons in May last year to 230,572 tons in the month this year, but eastbound freight traffic through the combined Canadian and U.S. locks was down from 13,251,395 tons in the 1949 month to 10,901,243 tons, principally on account of a decrease of from 11,765,641 tons of iron ore in the 1949 month to 9,160,827 tons. Westbound freight through the Canadian lock at Sault Ste. Marie increased from 102,456 tons in May last year to 113,200 tons, while that through the combined Canadian and U.S. locks was up from 2,551,935 tons in the 1949 month to 2,610,931 tons. The westbound movement of soft coal through the combined locks increased from 1,960,557 tons to 2,106,683 tons. Ship passages, eastbound and westbound, through the Canadian locks, decreased from 418 in May, 1949, to 334 in the month this year, while those through the combined locks decreased from 3,164 to 2,546.

Welland Ship Canal.—The total freight traffic through the Welland Ship Canal decreased from 2,071,952 tons in May last year to 1,872,166 tons in the month this year. Ship passages through this canal were down from 1,013 in the month last year to 782, while the registered tonnage of ships using the canal decreased from 1,918,523 to 1,283,633. Following is the record of freight through the Welland Ship Canal, in tons, in May, this year and last:—

	Month of May 1950	1949
Barley	42,664	36,270
Corn	108,553	9,188
Oats	20,797	8,779
Rye	1,675	1,792
Wheat	592,802	520,318
Flour	907	592
Gasoline	111,158	71,376
Petroleum and other oils	117,394	180,904
Sugar	20,145	10,171
Pulpwood	11,530	47,468
Autos and parts	217	357
Paper	37,492	27,596
Wood pulp	4,167	6,446
Soft coal	705,874	784,153
Coke	2,078	1,926
Hard coal	2,560	
Iron ore	62,483	173,320
Sand	31,037	6,800
All other freight	201,193	184,496
Total freight	1,872,166	2,071,952

St. Lawrence Canals.—Ship passages through the St. Lawrence canals increased from 1,256 in May last year to 1,479 in the month this year, while ship registered tonnage was up from 1,047,613 to 1,156,453. The total freight movement through these canals was up from 1,191,401 tons in May last year to 1,329,434 tons. Following is the record of the freight traffic, in tons, through the St. Lawrence canals in May, this year and last:—

	Month of May 1950	1949
Barley	22,033	21,741
Corn	96,442	5,527
Oats	15,113	2,486
Rye	1,675	4,883
Wheat	292,312	403,136
Flour	907	592
Gasoline	130,114	119,408
Petroleum and other oils	137,694	87,785
Sugar	20,095	8,169
Pulpwood	31,730	27,054
Autos and parts	1,197	147
Paper	25,535	12,200
Wood pulp	8,856	4,546
Soft coal	322,340	304,493
Sand	40,800	46,900
All other freight	180,031	142,334
Total freight	1,329,434	1,191,401

Other Canals and Total.—Figures recording the traffic through other canals in the Canadian system, and through Canadian canals as a whole, in May this year and last, appear in the accompanying two-column table

The figures in this review were furnished by the Dominion Bureau of Statistics, Transportation Division.

CG.S., C. D. Howe Sails North

The Dominion Government patrol ship C. D. Howe arrived in Montreal July 4 and was officially handed over to the Department of Transport on July 5. She sailed from Montreal on her first Arctic trip July 17, to proceed to Craig Harbour, on Ellesmere Island, with some 25 calls on route.

Traffic through Canals other than Sault, Welland Ship and St. Lawrence, and through All Canadian Canals Combined, May, 1950 and 1949

		Ottawa River Canal		Rideau Canal		Richelieu River Canal	
		1950	1949	1950	1949	1950	1949
Ship passages	No.	181	224	23	15	117	78
Registered tonnage	Tons	52,642	55,251	839	633	17,051	12,402
Passengers	No.			1/2/ 64	6		
Total freight	Tons	45,834	47,282	195	20	16,763	12,866
Pleasure craft		276	351	657	939		
		Trent Canal		Murray Canal		St. Peter's Canal	
Ship passages	No.	5	78	14	11	136	115
Registered tonnage	Tons	63		5,599	4,238	7,889	4,920
Passengers	No.	*94	1,381				
Total freight	Tons	12	67			1,146	1,731
Pleasure craft			420	38	61	31	3
		St. Andrew's Canal		All Canadian Canals			
		1950	1949	1950	1949		
Ship passages	No.			33	3,071	3,165	
Registered tonnage	Tons			5,131	2,944,857	3,651,556	
Passengers	No.			70	2,464	10,653	
Total freight	Tons			1,092	3,609,322	3,587,191	
Pleasure craft				41	1,002	1,815	

1/ Exclusive of 494 passengers on sight seeing pleasure cruise boats.
2/ Exclusive of 1,587 passengers on pleasure crafts.
* One passenger through one lock or bridge to be recorded as "1".

Limited Aid to Industry

Attention was called in a recent issue to the difficulties of the shipbuilding and ship repairing industries in Canada under present conditions, as set forth by the Canadian Shipbuilding and Ship Repairing Association at its recent annual meeting in Ottawa, and to the thought expressed that the Government programme of ship construction, wherein about $60 million is to be spent over the next five years, will not go far in providing steady employment for a minimum of 7,000 men. Attention has also been called to the proposals of the industry that operation in Canadian inland and coastal waters be confined to ships not only of Canadian registry, but also to those built in Canada. Among recent amendments to the Canada Shipping Act was one which authorizes the Minister of Transport to bar Canadian registry and operation of foreign-built ships, this being designed to stop the purchase by Canadian ship operators of old U.S. tonnage at relatively low prices. In discussion in the Commons, the Minister made plain that he does not propose to use his new powers to prevent the purchase and Canadian registry of ships built in the United Kingdom.

Opinion generally is that the amendment to the Act will not go far in providing aid to the Canadian shipbuilding and ship repairing industry, and the situation was well summed up by the concluding paragraph of an editorial in the Montreal Gazette, stating:—"Unless some further remedial measures can be devised, the industry is threatened with being reduced to the negligible proportions to which it shrank between the two world wars, and from which it was expanded only with difficulty when the last war began."

No Subsidy Extension

In the Commons, on June 28, when the three million dollar subsidy to provide assistance for the Canadian flag ocean shipping industry was being considered, the Minister of Transport, Mr. Chevrier, stated, in

reply to a question by Howard Green, Vancouver, that this subsidy, to apply to forty-odd ships, was for a period of one year only, that having been made plain by the Prime Minister some months ago. The Minister stated further that applications for subsidy for 35 ships had been approved, and that nine further applications were before the Canadian Maritime Commission. In reply to another question by Mr. Green, he said that there were 40 Canadian ocean ships laid up before the subsidy policy was decided upon, and that there were nine laid up on June 28. In reply to another question, the Minister stated that a total of 95 Canadian ships had been transferred to British registry.

In regard to the transfer of ships from Canadian to British Registry, with ownership remaining in Canada, arrangements were completed for the transfer of a total of 123 ships. To the end of June, the Canadian Maritime Commission had given approval for the transfer of registry for 95 ships. An Ottawa dispatch states that it is not expected that registry of the remaining 28 ships will be effected this year, and that transfer of registry of only about 15 more will be effected. The reduction in the number of transfers, it was said, has been made possible by some Canadian ship operators agreeing to keep certain ships in service without subsidy, in return for receipt of subsidy on their other ships.

Mainly About Marine People

John V. Clyne, Chairman of the Canadian Maritime Commission since it was formed in 1948, has resigned from that position, and on July 5 was appointed a member of the Supreme Court of British Columbia, filling a vacancy that was created recently by the establishment of an additional judgeship in British Columbia. Mr. Clyne had indicated to the Dominion Government as long ago as last autumn that he wished to resign from the Maritime Commission chairmanship, but remained in the position until recently at the Government's request. He is a native of Vancouver, and graduated from the University of British Columbia in 1923, later taking postgraduate work at the University of London, England, specializing in Admiralty law. In England, he was associated with Blake and Redden, Privy Council solicitors. He was called to the British Columbia Bar in 1927, and practised law in Vancouver until appointed Chairman of the Maritime Commission, specializing in Admiralty work. Through his legal practice, he gained an intimate knowledge of the problems and difficulties of the shipping industry. He is a past president of the Vancouver Bar Association and a member of the Board of Trustees of the Vancouver Merchants' Exchange, and has always been closely identified with the progress and activities of the University of British Columbia.

John Peter Goulandris, President of Atlantic Shipping Agencies, died on July 9, at Paris, France, after a brief illness. Mr. Goulandris was 43 and well known in Montreal marine circles, having commuted regularly between Montreal and New York. He was President of Andros Shipping Co. Ltd., Atpac Steamship Lines, Ltd., and Canada Asiatic Lines Ltd., and was also well known in shipping circles in Britain and New York.

C.P.R. B.C. Coast Service

In the Canadian Pacific Ry. British Columbia Coast Steamship Service, according to official advice of July 13, the ss. Princess Elizabeth, in addition to operating in the Victoria-Vancouver night service, made an extra return voyage between Vancouver and Nanaimo on June 22, and made special voyages from Vancouver to Newcastle Island and return on June 24 and June 28.

The ss. Princess Joan, in addition to operating in the Victoria-Vancouver night service, made special voyages from Vancouver to Newcastle Island and return on June 17 and June 25.

The ss. Princess Victoria resumed commisison on June 30, when she commenced operation on the Vancouver-Nanaimo route.

Beginning June 30, the night ships ss. Princess Elizabeth and ss. Princess Joan are each making an extra voyage daily from Vancouver to Nanaimo via Newcastle Island and return, and an extra voyage from Victoria to Vancouver and return, and this augmented service will continue until further notice.

Great Lakes Channels Drafts

The Shore Captain's Committee of the Lake Carriers' Association recommended the following maximum drafts for Great Lakes Channels, effective July 6:—Upbound, Detroit River, Amherstburg Channel, 21 ft. 1 in., a decrease of two inches from the maximum draft previously recommended; St. Mary's River, Middle Neebish Channel, 19 ft. 8 in., an increase of three inches—Downbound, all channels, 23 ft. 5 in., an increase of two inches, this recommendation being subject to depth of water available at port of destination.

Davie Shipbuilding and Repairing Co. Ltd.

The eastern patrol ship, C. D. Howe, was delivered to the Department of Transport by the builder, Davie Shipbuilding and Repairing Co., Ltd., Lauzon, Levis, Que., June 21. During June the Davie plant repaired collision damage on the ss. St. Lawrence and grounding damage on the ss. Prins Maurits.

Sault Ste. Marie Canals Traffic

Below is a statistical report on Great Lakes commerce passing through the canals at Sault Ste. Marie, Michigan and Ontario, in May, the figures having been compiled under the direction of John D. Bristor, Colonel, Corps of Engineers, United States Army, District Engineer.

Items		U.S. Canal	Can. Canal	Total
Eastbound				
Ship passages	Number	1,078	154	1,232
Registered tonnage	Net	4,748,333	170,945	4,919,278
Passengers	Number	51	647	698
Freight	Short tons	10,670,671	230,352	10,901,023
Wood products:				
Lumber				
Shingles				
Pulpwood		18,418	13,000	31,418
Vegetable products:				
Flour		1,419	5,614	7,033
Wheat		1,118,156	85,700	1,203,856
Grain, other than wheat		323,455	94,093	417,548
Mineral Products:				
Copper, lake				
Copper, electrolytic				
Zinc				
Iron ore		9,160,827		9,160,827
Scrap Iron		19,835		19,835
M'f'd. Iron and steel		19,351	2,325	21,676
*Stone			4,600	4,600
General merchandise		9,210	25,020	34,230
Westbound				
Ship passages	Number	1,134	189	1,323
Registered tonnage	Net	5,026,093	250,078	5,276,171
Passengers	Number	657	84	741
Freight	Short tons	2,497,731	113,250	2,610,981
Mineral products:				
Coal, soft		2,055,124	51,559	2,106,683
Coal, hard		37,674		37,674
Iron ore		58,506		58,506
M'f'd. Iron and steel		11,607	464	12,071
Salt		4,860		4,860
*Stone		190,743		190,743
Petroleum products		104,799	12,939	117,738
Wood products:				
Pulpwood				
General merchandise		27,707	47,933	75,640
Automobiles		6,711	355	7,066
Summary				
Ship passages	Number	2,212	343	2,555
Registered tonnage	Net	9,774,426	421,023	10,195,449
Passengers	Number	708	731	1,439
Freight	Short tons	13,168,402	343,602	13,512,004

*Includes broken stone, gravel and sand.

Manufacturers and Suppliers

American Brake Shoe Co.

M. B. Terry, Vice President in charge of Sales, American Brakeblok Division of American Brake Shoe Co., announces new appointments for G. A. Weller, N. P. Miller and H. M. Siverts. Mr. Weller, previously Assistant Manager of Replacement Sales, has been appointed Manager of Replacement Sales. Mr. Miller, previously Bus Service Engineer, has been appointed Chief Service Engineer, and Mr. Siverts, formerly District Representative, Ohio, has been appointed Assistant Manager of Replacement Sales, succeeding Mr. Weller.

American Car and Foundry Co.

C. Allan Fee has been elected Secretary, American Car and Foundry Co., succeeding Howard C. Wick, retired after 45 years of service, the last 34 as Secretary. Mr. Fee was born and educated in Jersey City, N.J., and joined American Car and Foundry Co. in 1915. He became Assistant Secretary in 1938 and held that position until his recent election as Secretary.

American Locomotive Co.

Alexander M. Hamilton, Vice President in charge of Foreign Sales, American Locomotive Co., retired June 30. He retired also as President of American Locomotive Export Co. and President of the Steam Locomotive Export Association, Inc. Manuel Alonso has been appointed Manager of Foreign Sales, American Locomotive Co., to succeed Mr. Hamilton.

Mr. Hamilton, a graduate of Cornell University, joined the company in 1910, and gained a vast experience with it. During his active career he travelled widely, and was in charge of locomotive erection in a number of foreign countries; he served throughout Europe and Latin America, and toured South America as a member of the National Research Council. During the recent war he was Executive Vice President of Canadian Tank Arsenal, operated by Montreal Locomotive Works, Ltd. He is a grandnephew of the famous Walter McQueen, designer of locomotives for Schenectady Locomotive Works, the American Locomotive Co. predecessor.

Mr. Alonso is a graduate of the School of Civil Engineering of Madrid, Spain. He joined American Locomotive Co. in 1928 as Foreign Sales Representative, and since that time has travelled widely in the company's service.

Associated Equipment Co., Ltd.

Among the Diesel engines exhibited by Associated Equipment Co., Ltd., Southall, Middlesex, England, at the recent International Trade Fair in Toronto, was a "handed" pair of six-cylinder marine Diesel engines complete with reverse and reduction gears. Each of these engines is of 9.6 litre capacity and develops 100 b.h.p. at 1,500 r.p.m., continuously rated. Cooling is by closed fresh water circuit with thermostatic control. Cylinder bore is 120 mm. (4¾ in.) and stroke is 142 mm. (5⅝ in.). The engines are arranged to drive outward turning propellers and have fuel consumption of 4¾ Imperial gallons (5.7 U.S. gall.) per hour at 100 b.h.p. Features of the engines are the variable speed governor which maintains the set speed even if the propeller leaves the water in rough weather; the dry sump system, which ensures constant lubrication irrespective of the angle of the engine, and the fresh water cooling, which eliminates the corrosive effect of hot salt water.



Ian F. McRae,
Assistant to Vice President in charge of Manufacturing, Canadian General Electric Co., Ltd.

Having for long occupied a leading position in the field of Diesel engines for road transport, A.E.C. turned its attention to marine propulsion some years before the war, and power units of this type, made at Southall, England, are now fully recognized as being among the foremost of their class. They are in no sense conversions from road vehicle engines, but are units wholly designed for marine purposes. These engines are to-day found in small vessels in service all over the world, one of the best known users being the Port of London Authority. After rigorous tests, a number will shortly be placed in service by the British Admiralty. All are built to Lloyd's survey.

The Baker-Raulang Co.

Recent announcement by James W. Moran, President, The Baker-Raulang Co., Cleveland, was that H. Dudley Swim had been elected Chairman of the Board; Clarence M. Taylor, Chairman of the Executive Committee, and John R. Morrill, Vice President in charge of Sales. The company manufactures and distributes the Baker line of power industrial trucks, tractors and cranes and rubber-tired mining equipment, and is represented in Canada by Railway and Power Engineering Corp. Mr. Swim is a director of the Chicago Rock Island and Pacific Rd. Co. and a former director of the Pere Marquette.

Branson Instruments, Inc.

Advice from Electrodesign, Montreal, Canadian agents for Branson Instruments, Inc., Stamford, Conn., is that that company announces the availability of the "Audigage" flaw detector, for locating cracks across webs of rails within joint bar limits. It is stated that this detector was developed in co-operation with the Pennsylvania Rd., and that after being thoroughly tested it has been used successfully to inspect thousands of joints. Our advice states as in the following.

The "Audigage" flaw detector transmits an ultra-high frequency sound wave from a small crystal vibrator into the top of a rail. When there is no defect in a rail directly under the crystal, a high-pitched signal is heard in the headphones. The presence of any defect under the crystal will result in a low-pitched signal. The instrument together with self-contained batteries weighs 11 pounds, and is carried on the operator's back. No controls require adjustment when the instrument is in use. The portability provides ease of operation and does not cause a track obstruction.

Experience indicates that approximately 40 joints an hour can be inspected. Defects across the web of a rail, ½ inch or more in length, can readily be detected. Smaller defects can be detected as an operator gains experience. By sliding the crystal along the top of the rail length of a crack can be determined.

Brantford Coach and Body Ltd.

Continued expansion of Brantford Coach and Body, Ltd., in line with its established policy, is indicated in the announcement of the purchase of manufacturing, sales and service rights of Dominion Truck Equipment Co., Ltd., of Kitchener, Ont., long prominent in the Canadian truck equipment field. The announcement was made by W. Ashton Cockshutt, General Manager of Brantford Coach and Body, Ltd. Dominion Truck Equipment Co. manufactures Dominion semi-trailers, sanitary vans, telescope hoists and other truck equipment. Parts and service for all Dominion Truck Equipment units will be made available through coast to coast Brantford Coach and Body

branch organization in Vancouver, Toronto, North Bay, Windsor, Ottawa, Montreal, Quebec and Moncton.

Burroughs Adding Machine Co. General Register Corp.

Burroughs Adding Machine Co. has acquired the exclusive rights for the Western Hemisphere to manufacture, distribute and service an entirely new type of automatic ticket issuing and accounting machine, for railways, bus lines and airlines. This machine was developed by the General Register Corp., of Long Island City, New York, and embodies the suggestions of many operating executives in the transportation field. During the past year, Burroughs Adding Machine Co. has studied the machine thoroughly and has made many improvements and refinements in its design.

The new machine operates as follows:—The ticket seller merely selects the proper plate from a rack and inserts it. The machine then instantly prints the complete ticket, showing station of departure and destination, route to be taken, amount of the fare and tax, and whether the ticket is round trip, half fare, one way, coach or first class. The price of the ticket is printed simultaneously with the destination, thus eliminating any possibility of incorrect charges. The machine maintains a complete record of each ticket sold, including serial number, seller's identification, whether sale is cash or credit, fares and taxes collected, and other information necessary for auditing and statistical purposes.

Canadian General Electric Co., Ltd.

Recent official advice is that Ian F. McRae has been appointed Assistant to the Vice President in charge of Manufacturing, Canadian General Electric Co., Ltd., and that he also continues as Manager of the company's largest plant, the one at Peterborough, Ont. Mr. McRae is widely known throughout the electrical apparatus industry, and his entire career since he entered the Peterborough Works as an apprentice 25 years ago has been devoted to the engineering and production of massive equipment for utilities and industry. His new appointment involves responsibility in the ten other plants in the C.G.E. Co. organization, producing transformers, appliances large and small, lamps, electronic equipment, plastics, tungsten carbides and many other products.

Canadian Ingersoll-Rand Co., Ltd.

A notable new portable air compressor, designated the "All-Canadian," has been introduced by Canadian Ingersoll-Rand Co., Ltd. This unit was entirely designed in Canada by Canadian veteran craftsmen of the air compressor industry, and is built entirely in Canada of Canadian materials by Canadian workmen. It is powered by a Chrysler Canadian-built industrial engine, and its size, with capacity of 125 cu. ft. per minute, is one found to be most practical for many construction jobs as well as general public utility and municipal use in Canada. The entire housing employs one of the newer plastics, called Fiberlast, being made of fiberlast-impregnated sheets of fiberglass, the toughness and dent-resisting qualities of which are combined with strength and light weight. The result is a smaller and more compact machine than the one replaced, which can be moved from job to job more easily and which is more efficient. The new machine is one-third lighter in weight than the one superseded, and has 19% greater capacty. Fuel consumption is strictly minimized, with a regulator unit said to be far superior to anything previously in use. Two-stage air compression, radiation-ribbed compression cylinders and a single throw crankshaft are further examples of more powerful and more efficient components used in a smaller unit.

Features of the new portable compressor are summarized in the following:—Compact design with smaller overall dimensions and one-third less weight than conventional models facilitates handling, towing and storage. Rugged, rattleproof, rustproof, dent-resistant new housing requiring no painting. Hinged fingertip lifting top gives complete access to all moving parts with one simple hand motion, easily removed if necessary. Starter and instrument panel completely visible and usable with housing closed. Sturdy new functional tow bar, easily adjusted to height of towing vehicle when on the move. Folds vertically to reduce space when stationary. Adjustable droplegs at front and rear for steadiness when unit is in operation. Pneumatic caster wheel on front dropleg to permit easy movement on the job. Convenient and safe exterior gas tank filler. Tubular air receivers provide compact design and form strongest frame ever used in portable compressors. Increased capacity (up to 125 cubic feet actual free air per minute) controlled by UL-83 Regulator which automatically adjusts speed of engine and compressor in accordance with the demand for air, saves fuel and provides correct volume and pressure for the tools in use. Directional cooling fins on compressor and two pass integrated intercooler reduces operating temperature, increases capacity. Eliminates joints, pipe connections, elbows, packing, requiring only two simple union joints. Simplified six blade intercooler fan eliminates hub, bracket and belts. Streamlined uni-directional air flow through intercooler puller fan to engine radiator pusher fan reduces air temperature and permits operation in hottest weather with top of housing in closed position.

Simple, direct and compact built-in air hose connections accessible from outside.



One of the Canadian Ingersoll-Rand Co., Ltd., Portable Air Compressors being Towed by Automobile.

Canadian Johns-Manville Co., Ltd.

Fred A. H. Gallop has been appointed Toronto Sales District Manager, Canadian Johns-Manville Co., Ltd., according to recent announcement by A. G. Sinclair, General Sales Manager. Mr. Gallop will direct sales of building materials and industrial and automotive products in Ontario. He succeeds F. L. Sherry, who recently entered business for himself after 28 years with the company. Mr. Gallop was born in Hastings, England, and came to Canada in 1924. In his service of nearly 25 years with the company he has been employed in many departments, most of his service having been with the sales district which he now heads.

Mr. Gallop announces the appointment of G. Bruce McCullough as Industrial Products Salesman for a number of counties in Ontario. Mr. McCullough, a native of Penetanguishene, was educated in Kitchener and at the University of Toronto, and prior to joining Johns-Manville was Plant Superintendent for Breithaupt Leather Co., Kitchener.

Canadian Westinghouse Co., Ltd.

On July 6, Prime Minister Duplessis of Quebec turned the first sod for

a new lamp plant being built in Three Rivers, Que., by Canadian Westinghouse Co., Ltd. The new plant will have floor space of over 75,000 sq. ft., and will represent an investment of several million dollars in grounds, machinery and instruments. About 300 people will be employed at the beginning of operations, and it is expected that ultimately some 1,200 will be employed. Construction of this plant marks the first move outside of Ontario by the company since it was formed some 50 years ago. James Buntain, of Hamilton, Ont., will manage the new plant.

Cherry Rivet Co.

E. D. Wilgus, sales engineer for the Cherry Rivet Company in upper New York state moved to New York last month to take charge of the sales and service organization set up by the company some six months ago to handle customers in the New York territory, which includes New York, upper New Jersey, Northeast Pennsylvania and the New England states.

E. C. Sterling, Jr., assistant sales manager for the company, returns to the Los Angeles office after supervising the organization of the New York branch office.

Combustion Engineering—Superheater, Inc.

Leonard H. Birkett, general sales manager of Combustion Engineering Corporation, Limited, (Canada), since 1933, died at his home in Montreal on June 28 at the age of 59. A well-known figure in the railway and industrial fields throughout Canada, Mr. Birkett served as a captain in the Royal Engineers in World War I and was employed by Canadian Locomotive Co., Ltd., and Canadian Pacific Ry. prior to joining The Superheater Co., Ltd., in 1921, where, up until the time of his death, he served as sales manager of the Industrial Division.

He was a member of the United Services Club, Canadian Railway Club and The Engineering Institute of Canada. Surviving are his wife, one daughter and two sons.

Dearborn Chemical Co., Ltd.

Recent announcement by H. N. Potter, Vice President and General Manager, Dearborn Chemical Co., Ltd., is that William W. Jamieson has been appointed Vice President of Industrial Sales and that Lewis C. Blackhall has been appointed an assistant vice president of the company. Mr. Jamieson joined the company in 1922, and Mr. Blackhall in 1937.

Dominion Foundries and Steel Ltd.

At a recent meeting of the shareholders of Dominion Foundries and Steel, Ltd., held at the company's head office in Hamilton, Ont., Frank A. Sherman, President, announced the appointment of four new members to the board of directors: **Harry N. Bawden,** Vice President, Dominion Securities Corp., Ltd., a director, Toronto Elevators, Ltd., Maple Leaf Milling Co., Ltd.; **Thomas F. Rahilly,** President and General Manager, Toronto Iron Works, Ltd., Chairman, Central Bridge Co., Ltd., President, Supreme Boiler and Engineering Co., Ltd., a director, International Metal Industries, Electric Tamper and Equipment Co.; **Frank H. Sherman,** B.Sc., P.E., Vice President and Works Manager, Dominion Foundries and Steel Ltd.; **Hilton R. Tudhope,** Chairman of the Board, A. E. Ames and Co., Ltd., President and a director, Russell Industries, Ltd., Vice President, Canada Cycle and Motor Co., Ltd., Canadian Acme Screw and Gear, Ltd., a director, Cosmos Imperial Mills, Ltd., International Metal Industries, Ltd., Hamilton Cotton Co., Ltd., Building Products Ltd., Brantford Cordage Co., Ltd.

Recently, a new issue of $8 million of Dominion Foundries and Steel, Ltd., 4½% cumulative redeemable sinking fund shares, of $100 par value, was offered at par by Messrs. A. E. Ames and Co., Ltd., and other financial firms. It was stated that the purpose of the issue is to provide part of the money need for the erection of a blast furnace unit on the Dominion Foundries and Steel, Ltd., property in Hamilton. The total cost of this furnace is said to be estimated at approximately $13 million, and the balance in excess of the proceeds of the new issue is being provided from funds obtained from debenture financing carried out earlier. The entire issue of new shares was quickly subscribed.

Ford Motor Co. of Canada, Ltd.

J. Kenneth McKay has been appointed Assistant to the Executive Vice President of Ford Motor Co. of Canada, Ltd., T. J. Emmert. Peter D. Ambery has been appointed Assistant to the Vice President, Sales and Advertising, H. H. Greenfield, succeeding Mr. McKay. Paul R. Gillis has been appointed Assistant Manager of Ford Monarch Sales, succeeding Mr. Ambery, and R. K. Andras has been appointed Manager, Sales Training, succeeding Mr. Gillis. Mr. McKay has been with the company since 1926; Mr. Ambery since 1935; Mr. Gillis since 1945, and Mr. Andras since early in 1946.



J. Kenneth McKay,
Assistant to Executive Vice President, Ford Motor Co. of Canada, Ltd.



George H. Bates,
General Manager of the new Parts and Accessories Division of Ford Motor Co. of Canada, Ltd.

The Ford parts and accessories business, having grown to ten times prewar volume, is being placed under the administration of a new division, with George H. Bates, formerly General Superintendent of Planning and Material Control, as General Manager. Mr. Emmert, in announcing creation of this new division (the eighth) of the company, said that it will be responsible for the selection of parts and accessories to be marketed by the company, as well as for control of inventories, warehousing, distribution and merchandising. It will control the company's regional parts depots at Saint John, Toronto, Winnipeg, Regina, Calgary and Vancouver, and the parts and accessories sales organization throughout Canada. Mr. Bates, who has been with the company since 1920, will become a member of its operating, merchandising, scheduling, product and facilities committees. President R. M. Sale explained that the establishment of the Parts and Accessories Division is a natural outcome of the phenomenal growth of the company's business in recent years. He said:—"This business formerly was handled as a phase of our general sales operation, but the volume now necessitates a new administrative organization solely concerned with parts and accessories in order to ensure efficiency and maximum service to our customers."

Mr. Bates is a native of Aylmer,

Ont.

Mr. Sale recently joined the Board of Toronto General Trusts Corp.

Fruehauf Trailer Co. of Canada, Ltd.

Recent announcement by Roy Fruehauf, President, Fruehauf Trailer Co. of Canada, Ltd., records the appointment of Herbert C. Darroch as Vice



Herbert C. Darroch,
Vice President and General Manager, Fruehauf Trailer Co. of Canada, Ltd.

President and General Manager of the company. Mr. Darroch is well known in the electrical industry throughout Canada, having recently served as Assistant General Manager of a prominent range manufacturing company, and previously having been an executive of another large company manufacturing electrical equipment. Fruehauf Trailer Co. of Canada, Ltd., to better serve Canadian industry, plans the immediate expansion of its factory and manufacturing equipment at Weston, Ont., and construction of new sales and service buildings and facilities at other points in Canada.

General Motors Corp Truck and Coach Division

E. D. Rutherford retired on July 1 from the position of Western Sales Manager, General Motors Corp. Truck and Coach Division, Pontiac, Mich. Mr. Rutherford joined the company in 1927, and served for many years in Pontiac as Assistant General Sales Manager. He has been succeeded by C. F. Dick, previously Sales Representative for the company in Southern California and Arizona. Mr. Dick joined the company in 1923, in the taxicab division, and was transferred to the motor coach division in 1937, serving as Sales Engineer, Service and Parts Expeditor, Coach Distribution Manager and Executive Assistant to General Sales Manager, before assuming his duties in Southern California and Arizona. His headquarters as Western Sales Manager are in Oakland, Calif.

International Harvester Co. of Canada, Ltd.

Approximately $40,000 was contributed by International Harvester Co. of Canada, Ltd., and its employees to the Manitoba Flood Relief Fund, to help repair the damage and relieve the hardships caused by the Red River flood in Manitoba. The company's contribution of $10,000 was dispatched to the Manitoba Flood Relief Fund headquarters as soon as word of the disaster reached Hamilton, and employee contributions totalling $30,000 were received from all of the company district offices from coast to coast, as well as the Hamilton general office, Chatham Works, Hamilton Works and Hamilton Twine Mills.

Oakite Products of Canada, Ltd.

The most efficient methods of removing old paint are set forth fully in a booklet "How to Strip Paint," published by Oakite Products of Canada, Ltd., Toronto. Employing Oakite materials and methods, the four processes of removing paint from surfaces are described in the booklet, these being as follows:—

(1) the hot flow-on method, where surfaces are flooded with hot solutions of stripping compound to remove paint from large areas or parts too big for immersion stripping; (2) the cold-spray method, where pressurized cold solutions are employed to strip paint from large parts when equipment or facilities are limited; (3) the steam gun method, where paint is blasted off surfaces by the rapid combined action of steam and stripping compound; and (4) the tank immersion method, for effective stripping of rejected parts in mass production operations to prepare them for resurfacing.

The booklet also deals with specialized materials for the surface preparation of parts before repainting, to promote improved paint adhesion, and materials for affording anti-rust protection of stripped surfaces awaiting repainting.

Rogers Majestic Electronics Ltd.

S. G. Paterson, Vice President, Rogers Majestic Electronics, Ltd. announces the appointment of M. C. Patterson as Ontario Regional Manager, Communications Division. Until recently, Mr. Patterson was Field Engineer for that division in Western Ontario, and in that capacity was concerned with some of the largest radio communication systems operating in Canada.

In addition to wide experience in the field of FM radiotelephone communications, Mr. Patterson is well known for his fine work over a period of many years at the Radio College of Canada. He is an active member of the Institute of Radio Engineers and a member of the Association of Professional Engineers of the Province of Ontario.

Shell Oil Co. of Canada, Ltd.

Recent announcement by Shell Oil Co. of Canada, Ltd., is that manufacture of its Retinax "A", a patented multi-purpose grease, has been increased and that the grease has been made available for general distribution, to meet a growing demand among automotive fleet owners. L. T. Hill, Lubricants Department Manager of the company, is quoted as stating that this grease, which has been test-proven in trucks, buses and other heavy duty equipment over a two-year period, has already led to important changes in fleet maintenance and purchasing procedures, because of its great versatility as an automotive lubricant.

Spicer Mfg. Division of Dana Corp.

Walter I. Buchanan has been appointed Sales Manager of the Service Parts Division of Spicer Mfg. Division of Dana Corp., according to announcement by S. F. Dupree, Jr., Divisional Manager, and David F. Kalish, formerly Sales Manager, is continuing with the company on field sales assignments.

Mr. Buchanan joined the Spicer organization on March 1, 1948, as Assistant Sales Manager of the Service Parts Division. He is a native of Illinois, and graduated from the University of Illinois in 1930 with a mechanical engineering degree.

Recently, August Ehrhardt, Master Mechanic of the Spicer Manufacturing Division since 1945, was promoted to the general tool engineering staff of Dana Corporation, and in his new position is devoting his efforts to seeking improvements in machine tooling operations in divisional plants. V. G. Kessler, who has been with Spicer since 1928, when he began as a toolmaker, has been appointed Master Mechanic of the Toledo plant to succeed Mr. Ehrhardt. Additional



Photo by Ashley and Crippen
M. C. Patterson,
Ontario Regional Manager, Communications Division, Rogers Majestic Electronics, Ltd.

promotions are:—S. Peters to be Assistant Master Mechanic; C. Swinghammer to be Chief Tool Engineer, Transmission and Torque Converter Division, and D. Kiehne, Chief Tool Estimator.

Sperry Products, Inc.

Bulletin 02-105, published by the Sperry Rail Service Division of Sperry Products, Inc., Danbury, Conn., describes the testing of rail inside joint bars and other track structures for bolt hole cracks and head and web separations, using ultrasonic detector cars. This new service is offered separately from the standard rail testing service, using induction detector cars, operated by Sperry Rail Service for testing rail in track outside the joint bars. Combined use of both services provides complete end-to-end testing of rails in track. The Sperry ultrasonic detector car detects defects in rail inside the joint bars, without removal of the bars, by transmission of pulsed ultrasonic vibrations. Head and web separations and bolt hole cracks cause a reflection of vibrations back to the detection equipment, where instantaneous visual indications permit classification by type and size.

The Texas Co.—McColl-Frontenac Oil Co., Ltd.

An excellent article on the lubrication of internal combustion engines, entitled "Gas and Dual-Fuel Engine Lubrication," appeared in the July issue of "Lubrication," a technical publication devoted to the selection and use of lubricants, published by the Texas Co., New York. Copies are available upon application to McColl-Frontenac Oil Co., Ltd.

Inland Waters Load Line Rules

Deeper loading of freighters operating on the Great Lakes during the summer season has again been authorized by the Department of Transport, a Notice to Mariners in this connection stating as in the following:

The Minister of Transport, under the provisions of Subsection (1) of Section 488A of the Canada Shipping Act, 1934, as amended, authorized, on April 27th, 1950, deeper loading of steamships making voyages within the limits of Inland Waters, defined in Subsection (41) of Section 2 of the Canada Shipping Act, 1934, as amended, when carrying oil, ore, coal, limestone, grain and similar commodities, during the summer season, May 16 to June 30, 1950, inclusive, defined in Subsection (1) of Section 96 of the Load Line Rules, in accordance with the following conditions:

1. The Load Line Rules referred to herein are the Load Line Rules for ships making Voyages on Lakes or Rivers, made by Order-in-Council P.C. 62, dated January 18, 1949.

2. The ships which are eligible to be marked with load lines under this authority are non-passenger ships which have been or would ordinarily be assigned load lines under the Load Line Rules referred to above.

3. The provisions of the Load Line Rules, where applicable, shall apply to ships eligible to be marked with load lines under this authority, except as modified herein.

4. The summer freeboard as determined by the Load Line Rules, may be reduced by an amount which shall be determined by an Assigning Authority, but which shall not exceed three-tenths of an inch per foot of the corresponding summer draught.

5. The structural strength of the ship shall be sufficient for the draught corresponding to the reduced freeboard.

6. The position of the intermediate and winter load line marks shall remain as determined by the Load Line Rules.

7. Any load line certificate issued under this authority shall be marked to show that it has been so issued, and a copy of the certificate shall be forwarded to the Chairman, Board of Steamship Inspection.

8. This authority is only effective during the year 1950.

Fire-fighting Instruction

The crew of the Canadian Pacific lake steamships SS. Assiniboia, which made her first sailing of this season from Port McNicoll to the head of the lakes on June 3, carried out fire-fighting equipment and boat drill, at Port McNicoll, on June 2. The crew members were instructed thoroughly in the correct use and maintenance of the ship's fire extinguishers of the dry chemical, Pyrene and soda acid types. Following demonstration of extinguishers, a boat drill was held, and the crew members had explained to them the new fire prevention installations made aboard ship during spring fitting, these including fireproof bulkheads, a new sprinkler system, hydrant valves installed in cabins, additional hydrants throughout the ship and a public address system. The demonstration was witnessed by inspectors and officials of the Government and C.P.R., including W. F. Koehn, General Superintendent, Ontario District, who is in charge of the C.P.R. lake steamships.

ASSOCIATIONS, CLUBS, MEETINGS

The names of the persons mentioned are those of the secretaries, unless otherwise stated

Air Industries and Transport Association of Canada—R. N. Redmayne, 610 Blackburn Bldg., Ottawa. Annual meeting, October, 1950

Air Transport Association of America—M. F. Redfern, 1107 Sixteenth St., N.W., Washington.

American Association of Baggage Traffic Managers—E. P. Soebbing, 1450 Railway Exchange Bldg., St. Louis, Mo.

American Association of Passenger Traffic Officers—B. D. Branch, Secretary-Treasurer, 143 Liberty St., New York 6. Annual meeting, Havana, Cuba, October 24-27, 1950

American Association of Port Authorities—Paul A. Amundsen, 815 Washington Bldg., Washington 5, D.C. Annual meeting, Fairmont Hotel, San Francisco, Calif., October 3-7, 1950.

American Association of Railroad Superintendents—Miss Elise LaChance, 431 S. Dearborn St., Chicago, 5.

American Railway Bridge and Building Association—Miss Elise LaChance, 431 S. Dearborn St., Chicago, 5. Annual meeting, September 18-20, 1950. Stevens Hotel, Chicago, Ill.

American Railway Development Association—E. L. Beardsley, Secretary-Treasurer, The D & RGW RR. Company, P.O. 2040, Denver 1, Colo.

American Railway Engineering Association—N. D. Howard, 59 E. Van Buren St., Chicago, 5. Annual meeting, March 13-15, 1951.

American Society for Testing Materials—C. L. Warwick, 1916 Race St., Philadelphia 3, Pa. Annual meeting, June 18-22, Atlantic City, N.J.

American Society of Mechanical Engineers—Railroad Division Chairman, K. A. Browne, Chesapeake and Ohio Ry. Co., 3305 Terminal Tower, Cleveland 1, O. Secretary, E. L. Woodward, Western Mechanical Editor, Railway Age, 79 Monroe St., Chicago 3. Annual meeting, November 28-29, 1950, Hotel Statler, New York, N.Y.

American Society of Tool Engineers—J. M. Cannon, Director of Public Relations, 523 Penobscot Bldg., Detroit, 26, Mich.

American Transit Association—A. W. Baker, 292 Madison Ave., New York 17, N.Y. Annual convention, September 25-27, 1950. Biltmore Hotel, Los Angeles, Cal.

American Wood-Preservers Association—H. L. Dawson, 839 17th St. N.W., Washington 6. Annual meeting, April 25-26, 1951, Chicago, Ill.

Association of American Railroad Dining Car Officers—W. F. Ziervogel, 605 S. Rankin Ave., St. Louis 3, Mo. Next meeting, Sept. 19-20-21, 1950, New York.

Association of American Railroads—Headquarters, Washington, 6, D.C.—Officers: W. T. Faricy, President; J. Carter Fort, Vice President and General Counsel; G. M. Campbell, Secretary-Treasurer, and Operation and Maintenance Dept.—J. H. Aydelott, Vice President, Washington, 6.
Operating—Transportation Division, L. R. Knott, Executive Vice Chairman, 59 East Van Buren St., Chicago 5.
Operating Section, J. C. Caviston, 59 East Van Buren St., Chicago 5, Ill.
Transportation Section, H. A. Eaton, 59 E. Van. Buren St., Chicago.
Communications Section, A. H. Grothmann, 59 East Van Buren St., Chicago 5, Ill.
Fire Protection and Insurance Section, W. E. Todd, 59 E. Van Buren St., Chicago.
Freight Station Section, W. E. Todd, 59 E. Van Buren St., Chicago.
Medical and Surgical Section, J. C. Caviston, 59 East Van Buren St., Chicago 5, Ill.
Protective Section, J. C. Caviston.
Safety Section, J. C. Caviston.
Freight Loading and Container Section, G. H. Ruhle, 59 E. Van Buren St., Chicago.
Engineering Division, Neal Howard, 59 E. Van Buren St., Chicago.
Construction and Maintenance Section, Neal Howard.
Electrical Section, Neal Howard.
Signal Section, R. H. C. Balliet, 59 East Van Buren St., Chicago 5, Ill. Next meeting, September 18-20, 1950, Hotel Statler, N.Y.
Mechanical Division, Fred Peronto, 59 E. Van Buren St., Chicago.
Electrical Section, Fred Peronto, 59 E. Van Buren St., Chicago.
Freight Claim Division, Lewis Pilcher, Executive Vice Chairman, 59 E. Van Buren St., Chicago.
Motor Transport Division, G. M. Campbell, Washington.
Car Service Division, A. F. Swinburne, Executive Assistant, Washington.
Bureau of Explosives—D. M. Grant, Inspector, lines east of Port Arthur, 342 Union Station, Toronto 1.
Finance Accounting, Taxation and Valuation Dept., E. H. Bunnell, Vice President, Washington.
Accounting Division, E. R. Ford, Washington.
Purchases and Stores Division, W. J. Farrell, Executive Vice Chairman, Washington, 6.
Treasury Division, E. R. Ford.
Traffic Dept., W. J. Kelly, Vice President, Washington.
Bureau of Railway Economics—J. H. Parmelee, Vice President and Director, Washington.
Public Relations Department—R. S. Henry, Vice President, Washington.

Association of Railway Claim Agents—F. L. Johnson, Gulf, Mobile and Ohio Rd. Co., 104 St. Francis St., Mobile, 13, Ala. Annual meeting, May 2-4, 1951, Biloxi, Miss.

Canadian Automotive Electric Association—J. A. Bennet, Executive Secretary, 159 Bay Street, Toronto, and R. C. Sullivan,

Secretary-Treasurer, 7 Dover St., Chatham.

Canadian Automotive Transportation Association—John Magee, Executive Secretary and Director of Public Relations, 146 Wellington St. West, Toronto.

Alberta Motor Transport Association — J. Taylor, 1411 2nd St. East, Calgary.

Automotive Transport Association of British Columbia—G. L. Buckman, 810 Dominion Bank Bldg., Vancouver.

Manitoba Automotive Transportation Association—M. M. Wocks, 118 McDonald Ave., Winnipeg.

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Saskatchewan Motor Transport Association—Angus A. Mitchell, 6 Victoria Park Bldg., Regina.

Canadian Car Demurrage Bureau—Eastern Lines: Mr. C. H. Thurber, Manager, 885 Lagauchetiere St. West, Montreal.—Western Lines: J. T. Corrie, Manager, Winnipeg.

Canadian Freight Association—
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Western Lines: J. F. Flynn, Chairman, Room 44, C.P.R. Office Bldg., Winnipeg.

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Lake Carriers' Association—O. T. Burnham, 905 Rockfeller Bldg., Cleveland, 13, Ohio.

Lake Freight Association—J. Dow, 759 Victoria Square, Montreal.

Marine Club, Toronto—H. L. Rowntree, Secretary-Treasurer, Suite 209, 9 Richmond St. East, Toronto.

Motor Truck Club of Toronto—G. Elliot, Canada Cartage Co. Ltd., 14 Cross St., Toronto.

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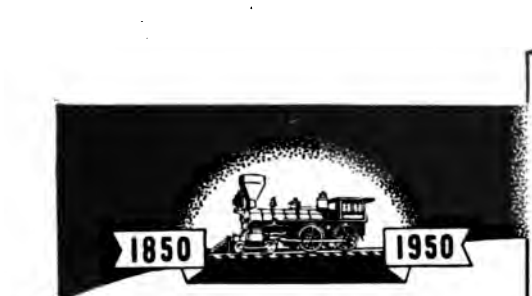
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Transportation Club of Toronto—W. G. Hamilton, Chief Clerk, Freight Claims Office, C.P.R., Simcoe and Wellington Sts., Toronto. Annual meeting, December 7, 1950, Royal York Hotel, Toronto.

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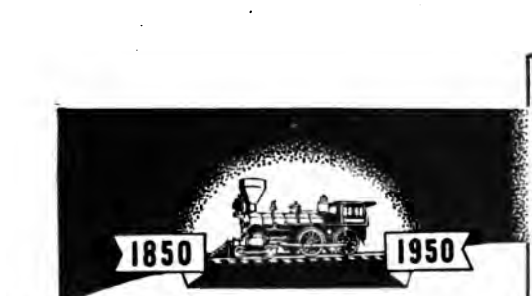
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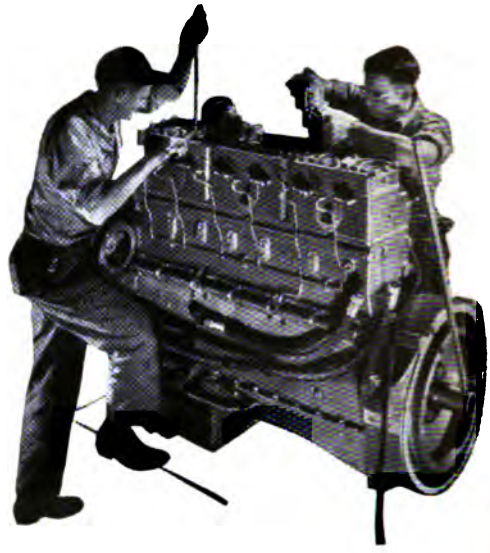
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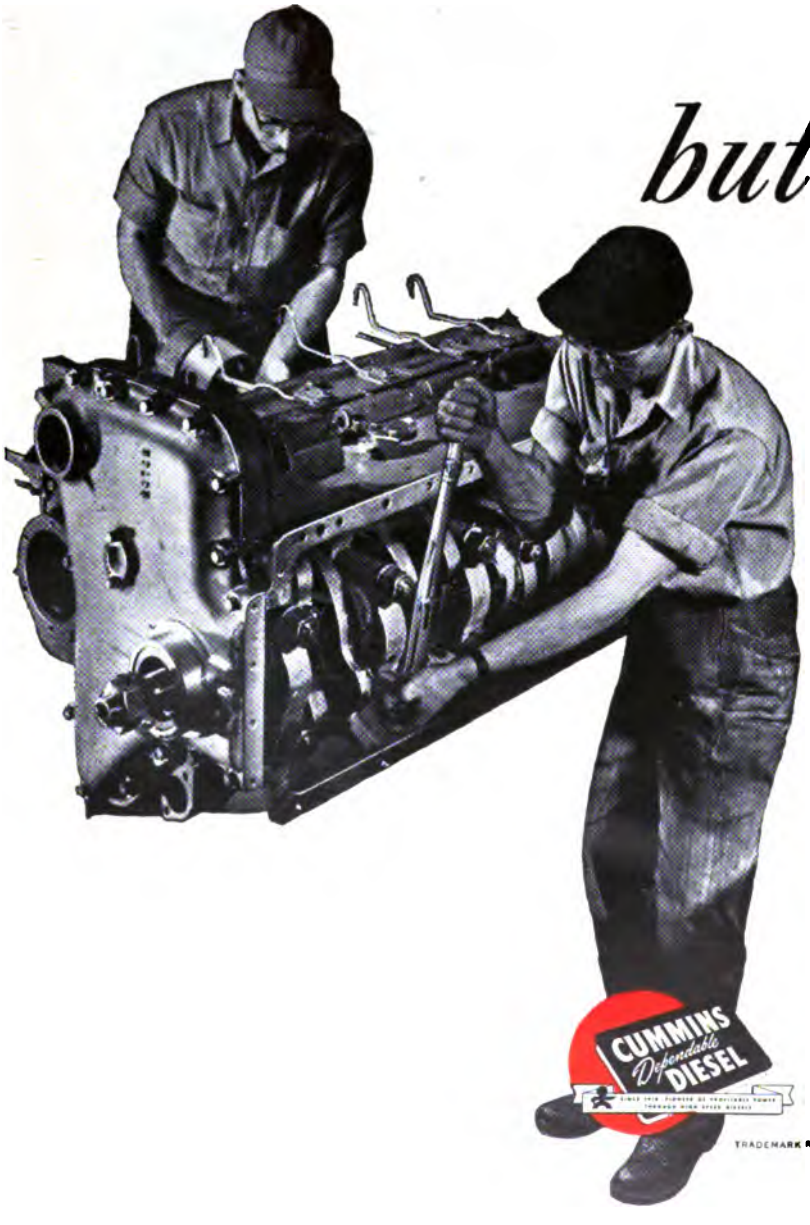


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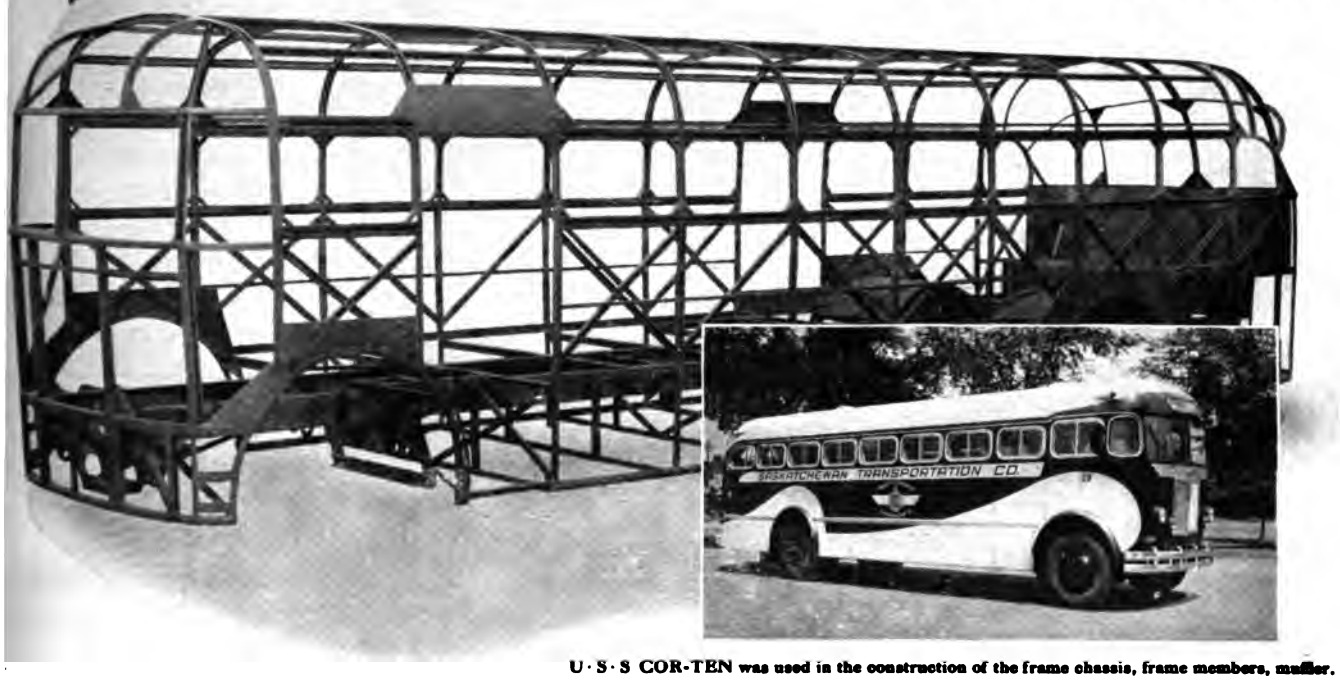
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THERE are now available a number of materials for decreasing deadweight in buses and trolley coaches. But none of them can surpass the ruggedness, dependability, safety . . . *and low cost* . . . of construction possible with U·S·S COR-TEN. None can offer a better record for trouble-free performance.

When you use U·S·S COR-TEN in stress-carrying members you can trim off substantial excess poundage with perfect assurance that strength, stamina, service life and safety have not suffered. Nor need you worry about added cost. U·S·S COR-TEN costs so little more than plain steel and fabricates so readily that with proper lightweight design the operational benefits it assures can be had at little or no increase in cost.

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And remember — *there's nothing new or untried about U·S·S COR-TEN.* During the past 10 years this long-lasting, high-strength steel has proved its superiority in hundreds of thousands of more efficient, lightweight transportation units of every description, operating under every condition of terrain and climate. Our engineers will be glad to show you how U·S·S COR-TEN can make your equipment lighter, stronger, safer, less costly to maintain, more profitable to operate.

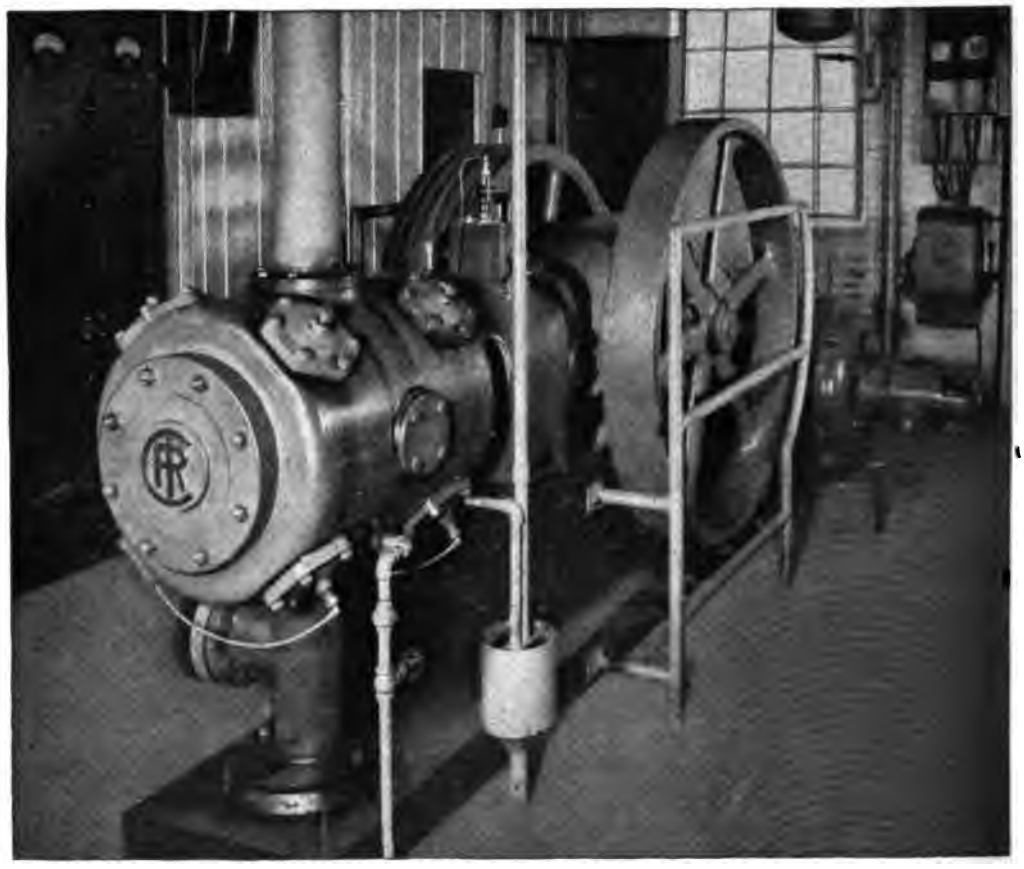
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- Completely accessible, oil-tight frame.
- Double-row Timken main bearings.
- Constant-speed control; or dual control, permitting either constant-speed or automatic-start-and-stop.
- Pressures 5 to 150 psi single stage.
- Also to 500 psi two-stage; 2500 psi three-stage.
- V-belt, flat-belt, or drive by synchronous motor mounted on crankshaft. Also steam drive with steam cylinder between air cylinder and frame.

WHEN you require a compressor that has the stamina to generate Air Power continuously at full capacity, 24 hours a day, week after week . . . specify a Canadian Ingersoll-Rand Class "ES."

This heavy-duty compressor is designed, built, tested, and rated for severe service throughout many years. In addition, it is the most efficient trouble-free single-stage compressor available and will save you hundreds of dollars in power and maintenance charges during its lifetime.

When you have any problems concerning Air Power . . . its generation, its distribution, or its thousands of labor-aiding uses . . . call on Canadian Ingersoll-Rand.

Canadian Ingersoll-Rand Co. Limited

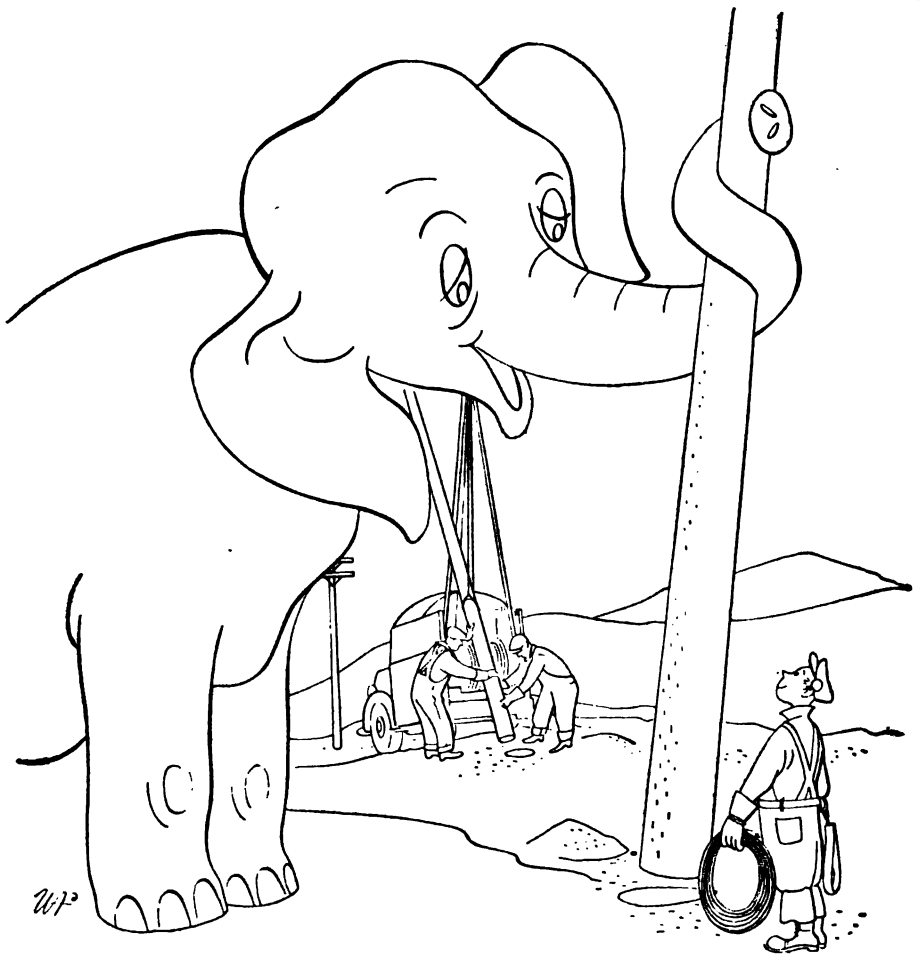
head office - MONTREAL QUE. ——— *works* - SHERBROOKE QUE.

branches at SYDNEY - SHERBROOKE - MONTREAL - TORONTO - KIRKLAND LAKE - TIMMINS - WINNIPEG - NELSON - VANCOUVER

B-19

AIR AND GAS COMPRESSORS • ROCK DRILLS • HOISTS • PUMPS • BLOWERS • CONDENSERS • AIR TOOLS

IT'S REMARKABLE



The amount of POLE LINE CONSTRUCTION EQUIPMENT required in each of our twenty-six warehouses to meet the daily needs of the Power and Communication Industry across Canada is indeed remarkable. Based on more than fifty years of experience the stocks in Northern Electric warehouses are designed to meet the day by day requirements of Power and Communication utilities. Northern Electric offers more than the actual material. Our service and technical knowledge keeps pace with, and is an essential part of the industry.

Northern Electric

COMPANY LIMITED

HALIFAX MONCTON QUEBEC CHICOUTIMI THREE RIVERS SHERBROOKE MONTREAL OTTAWA VAL D'OR
KINGSTON TORONTO HAMILTON LONDON WINDSOR KIRKLAND LAKE TIMMINS SUDBURY
FORT WILLIAM WINNIPEG REGINA LETHBRIDGE CALGARY EDMONTON VERNON VANCOUVER VICTORIA

...and with constant loads, too, you'll save plenty with a truck body of ALUMINUM



You'll save on the initial truck cost. Because that strong, lightweight aluminum body can be mounted on a lighter and less expensive chassis with lighter tires and yet carry the same load. You can actually cut 1000 lbs. of deadweight off your delivery truck with a body of aluminum. And, because your truck is so much lighter, you'll save money in licence fees and fuel.

But that's not all. That aluminum truck body, rustproof and corrosion resistant, practically wipes out maintenance cost. It doesn't require painting. Think of what this item alone will mean in over-the-years upkeep economy.

You'll get a lot of service from an aluminum truck body — and it's money-saving service all the way. For the body builder, as well as the delivery truck owner, aluminum is the better buy. Get all the facts from the nearest Alcan sales office.

Write for booklet,
"Alcan Aluminum for Truck Bodies"

ALUMINUM COMPANY OF CANADA, LTD.

Producers and Fabricators of Aluminum for Canadian Industry and World Markets

MONTREAL • QUEBEC • TORONTO • VANCOUVER • WINDSOR

"Cellophane" Division of C-I-L has used Business Papers continuously since 1933



SPALDING BLACK
Manager, Product Advertising
CANADIAN INDUSTRIES LIMITED

The impact of "Cellophane" on our way of life is one of the great success stories of modern merchandising. The first pound of "Cellophane" was manufactured in Canada in 1932. At that time Spalding Black was appointed to advertise and promote "Cellophane" and continued to do so for 16 years.

Here's what Mr. Black says:—

"Each year we have used all the business papers that reach fields where 'Cellophane' is used or where potential markets exist. Practically all forms of advertising were used at different times for different purposes, but one of the essential elements of contact to our customers and prospects has been, and is, our continuous campaign in the business and trade press."

Since 1933 "Cellophane" Division of Canadian Industries Limited has used Business Paper advertising continuously, as an essential element in its promotion of the use of "Cellophane".

The success of this advertising policy is shown by the graph above.

The B.N.A. includes merchandising, industrial, service, and management publications, serving every branch of business and industry. One or more of them covers YOUR prospects, economically and effectively.

The emblem that identifies BNA *business papers of character*

BUSINESS NEWSPAPERS ASSOCIATION
OF CANADA
137 Wellington St. W., Toronto, Ont. Telephone: WA 3462

OPEN UP CLOGGED RADIATORS

safely, speedily, at lower cost



Cleans faster! Costs less! Safer to use! That's the story on Oakite Stripper. Put it to work for you opening up your clogged radiator cores. You'll cut maintenance costs. You'll do a better job! You'll do a quicker job!

You can get complete details from your local Oakite Technical Service Representative. Or write address at right for FREE copy of the Oakite Cleaning and Descaling Manual for Service Shops. It describes widely-used Oakite methods for treating scale- and sludge-clogged radiators. Offers many worthwhile suggestions for speeding up body-washing; more thorough cleaning of blocks, transmissions; fire-safe floor cleaning; one-shot cleaning and deodorizing of bus and truck interiors. Many other jobs. Send for manual today. No obligation.

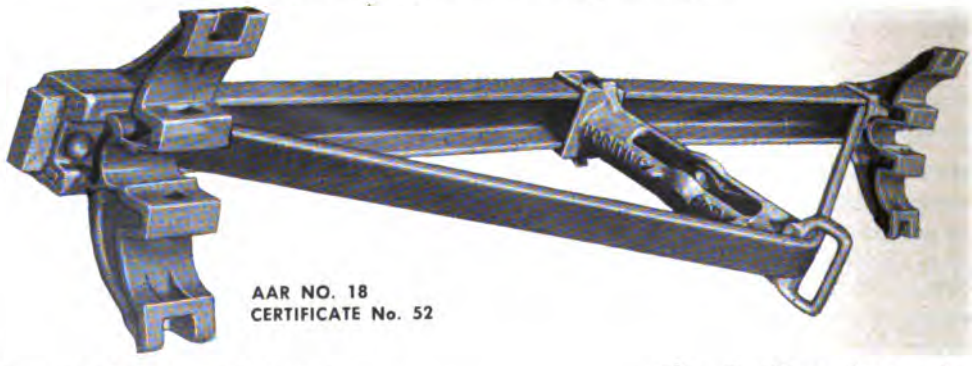
OAKITE PRODUCTS OF CANADA, LTD.
65 Front St. E., Toronto, Ont.
Technical Service Representatives Located in Vancouver, B. C.; Toronto, Ont.; London, Ont.; Hamilton, Ont.; Montreal, Que.

OAKITE
REG. U.S. PAT. OFF.

Specialized Industrial Cleaning

POSITIVE BRAKE BEAM
(Trade Mark)

18,000 pound capacity



No threaded rod — No nuts.
Strap tension member.
The long-lived beam that reduces maintenance.

The Positive Beam is the Railroads' Dream.

CHICAGO RAILWAY EQUIPMENT CO.

CHICAGO

Manufactured in Canada and sold by Canadian Appliance Company, Montreal

Burlington

STEEL PRODUCTS



RAIL STEEL REAL STRENGTH

Specify Burlington Proven Products • Quality Assured

RAIL STEEL TUBING

STEEL FENCE POSTS

NEW BILLET STEEL BARS

FORGED STEEL GRINDING BALLS

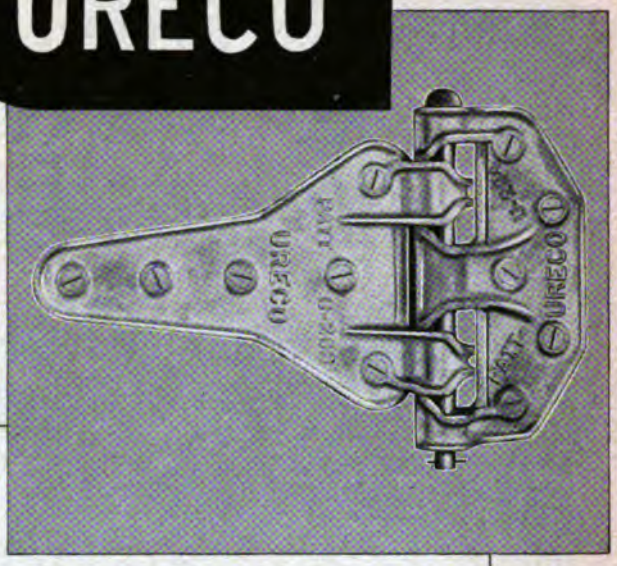
RAIL STEEL RE-INFORCING BARS
Plain and Hi-Bond

Burlington

MEMBER CANADIAN CONSTRUCTION ASSOCIATION

BURLINGTON STEEL COMPANY LIMITED
HAMILTON - CANADA

*URECO

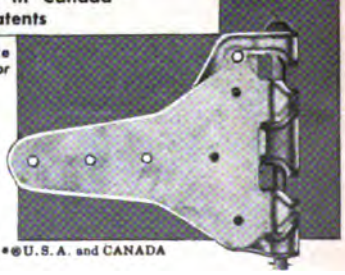


self-locking refrigerator car door hinges

Corrosion-resistant, completely hot dipped galvanized and of durable, long-lasting malleable iron, the URECO door hinge *outlasts the ordinary type hinge.* Yet this hinge is *low in cost,* is easy to apply, and has the *additional safety advantage of the self-locking feature!*

The URECO door hinge locks in place *automatically* when the door is swung open. It *stays that way* until the door is closed. Wind and jolting can't cause damage or injury to lading or personnel!

Manufactured and sold in Canada under Canadian patents



Showing simple, effective mechanism of URECO door hinge in open, LOCKED position.

FOR CATALOG WRITE TO:

UNION RAILWAY EQUIPMENT CO.
332 S. MICHIGAN AVENUE, CHICAGO 4, USA

Canadian Representative
WAYNE K. DAVIDSON
1838 DORCHESTER STREET W., MONTREAL, QUEBEC

*®U.S.A. and CANADA

COGHLIN SPRINGS

FOR QUALITY AND SATISFACTION

Our eighty-one years' Canadian reputation and experience ensures that you can safely specify COGHLIN for all your spring requirements.

B.J. COGHLIN CO. Limited

3320 ONTARIO STREET EAST

MONTREAL, CANADA

Established 1869



Agents: Filer-Smith Machinery Co. Ltd., Winnipeg
C. M. Lovsted & Co. (Canada) Ltd., Vancouver



—PLATES & SECTIONS—



OVER A WIDE RANGE FOR

BRIDGEBUILDING

SHIPBUILDING · LOCOMOTIVES · CARS · TANKS ETC.

HALLSIDE FIBRE STEEL FOR STAY BOLTS
combines strength of Steel with qualities of Wrought Iron

LOCOMOTIVE AND CAR WHEEL TYRES
to the latest Canadian Railway Specifications

BRIGHT STEEL SHAFTING AND TURNED BARS
to very fine limits ¼" diameter and up

TANK PLATES
including Copper Bearing quality

FLANGE PLATES
FIREBOX PLATES
to highest analysis and tests

HIGH TENSILE
Locomotive Shell Plates

NICKEL STEEL
Locomotive Shell Plates

ESTABLISHED 1872

THE STEEL COMPANY OF SCOTLAND

L I M I T E D

GLASGOW : SCOTLAND

Works:
BLOCHAIRN, Glasgow
HALLSIDE, Newton Nr. Glasgow

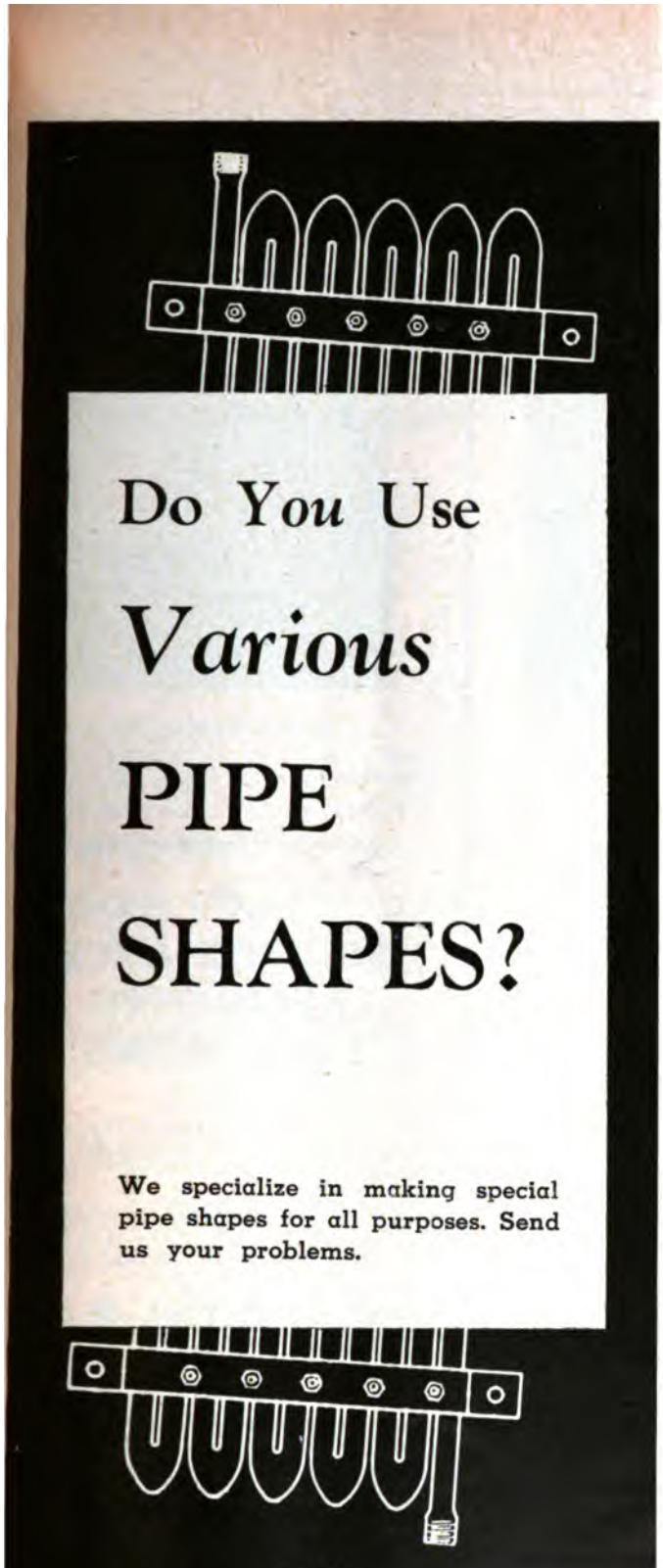
GOVAN SHAFTING & ENGINEERING WORKS, Glasgow





Canadian Representative:

H. M. LONG LIMITED - 2228 WALKLEY AVENUE - MONTREAL





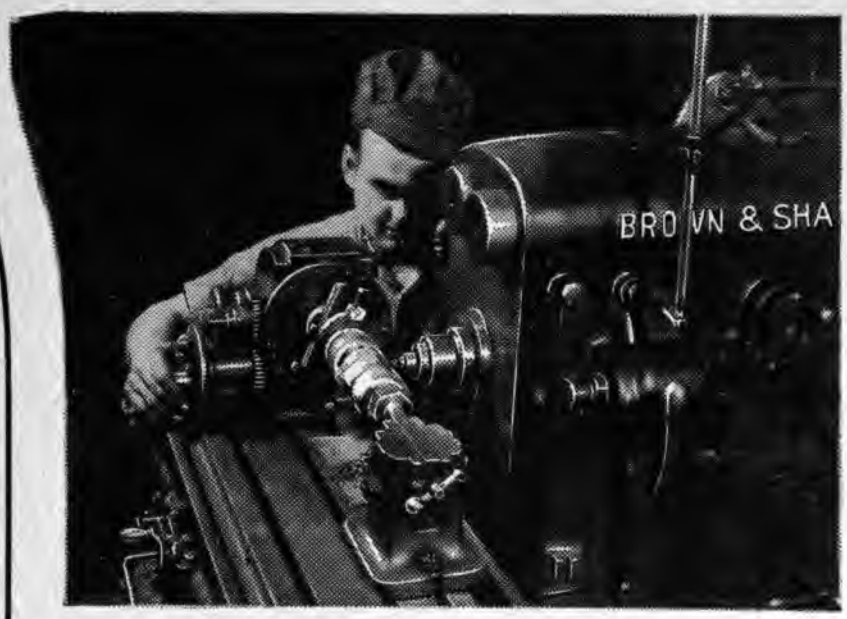


. . ."I don't have to worry about protecting polished pipe in these RIDGID LonGrip Vise jaws."

LonGrip Jaws protect polished pipe in RIDGID vises

● You get years of trouble-free service with this more-for-your-money RIDGID Bench Yoke Vise. You like its easier-work features — integral pipe rest, handy bender that won't flatten pipe and LonGrip jaws that protect polished pipe. Special malleable frame and heat-treated tool-steel jaws for maximum wear. Made in 8 sizes, for pipe to 6." RIDGID bench, post, stand and Tristand pipe vises, yoke and chain types, all offer you real work-saver advantages. Buy them at your Supply House.

RIDGID
WORK-SAVER PIPE TOOLS
THE RIDGE TOOL CO. • ELYRIA, OHIO



You can *RELY ON* MACHINE TOOLS from FAIRBANKS-MORSE

Fairbanks-Morse can supply every kind of machine tool for industrial production and maintenance—tools that bear the name of world famous manufacturers — tools that ensure maximum production with highest accuracy. Our engineering counsel is always at your service to analyze your requirements, to make recommendations covering the best equipment for your needs and for its proper installation. For complete information on machine tools call our nearest office.

The CANADIAN **Fairbanks-Morse** COMPANY *Limited*

The Departmental Store for Industry

FIFTEEN BRANCHES FROM COAST TO COAST

GALT MALLEABLE IRON COMPANY LTD.

Malleable Castings of Fine Quality

GALT — ONTARIO

Safety Control Gate



Patented Canada 1946

for exit doors of buses and transit vehicles. Saves its cost quickly by practically eliminating

●

MAINTENANCE
ACCIDENTS
FREE-RIDES

●

Write for full information

●

Manufactured and sold by

Fred A. McKay & Son
Reg'd
5370 Cote St. Paul Road, Montreal

Accurate Credit Information

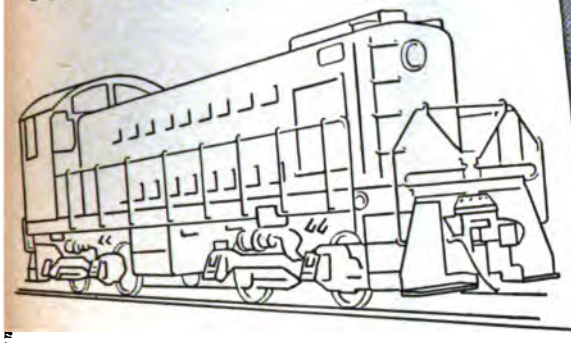
is the primary step in modern sales research. Get the facts at the source.

Dun & Bradstreet files reveal the current financial standing of business men everywhere.

Dun & Bradstreet
of Canada Limited
A Nation-Wide Service

Dependable
GENERAL ELECTRIC
RENEWAL PARTS

For Diesel-Electric Locomotives



KEEP YOUR EQUIPMENT RUNNING SMOOTHLY

CANADIAN GENERAL ELECTRIC CO LTD

HEAD OFFICE TORONTO
SALES OFFICES COAST TO COAST

49-EL-2

you'll like...

that friendly feeling

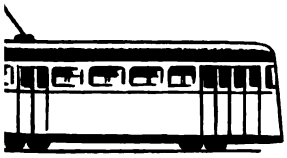
when banking at

The BANK of NOVA SCOTIA

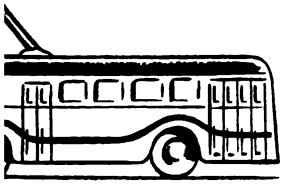
• A SIGN OF GOOD FRIENDSHIP

R-338-A

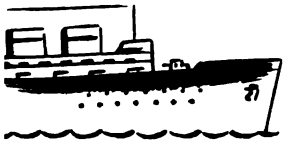
FOR PERFORMANCE . . . PLUS!



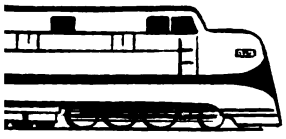
All PCC cars manufactured in Canada are inspected and tested by WARNOCK for tramway companies.



WARNOCK inspects trolley coaches and busses, both gas and diesel, during manufacture and carries out maintenance and safety tests of busses and drivers for insurance companies and operators.



During ship construction or refit WARNOCK engineers inspect materials and workmanship, for owner or purchasor.



WARNOCK inspects, tests and expedites rolling stock, rails, track fastenings, castings, timber, electrical and diesel equipment, parts etc. for railway companies.

CHAS. WARNOCK & CO. LTD.

SYDNEY - TRURO - MONTREAL - TORONTO
HAMILTON - WELLAND - WINNIPEG - VANCOUVER

FOR SERVICE

GENERAL SALES & EQUIPMENT

LIMITED

36 TRANS-CANADA BLDG. WINNIPEG, MAN.

Specialties for the Industry

For Service

G&E

WE INVITE YOUR INQUIRIES

We feature

INATEX

REG'D

The marvel rubber lining material to resist corrosion and abrasion.

FOR

DOOR SEALS
LININGS FOR BRINE TANKS
ETC.

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ON SHORT OR LONG HAULS



Dunlop — Makers of Auto, Truck, Bus, Agricultural, Aircraft, Motorcycle and Bicycle Tires; Auto Accessories; Industrial and Agricultural Rubber Products — Belting, Hose, etc., "Dunlopillo" (The Original) Latex Foam Cushioning; and Golf Balls.

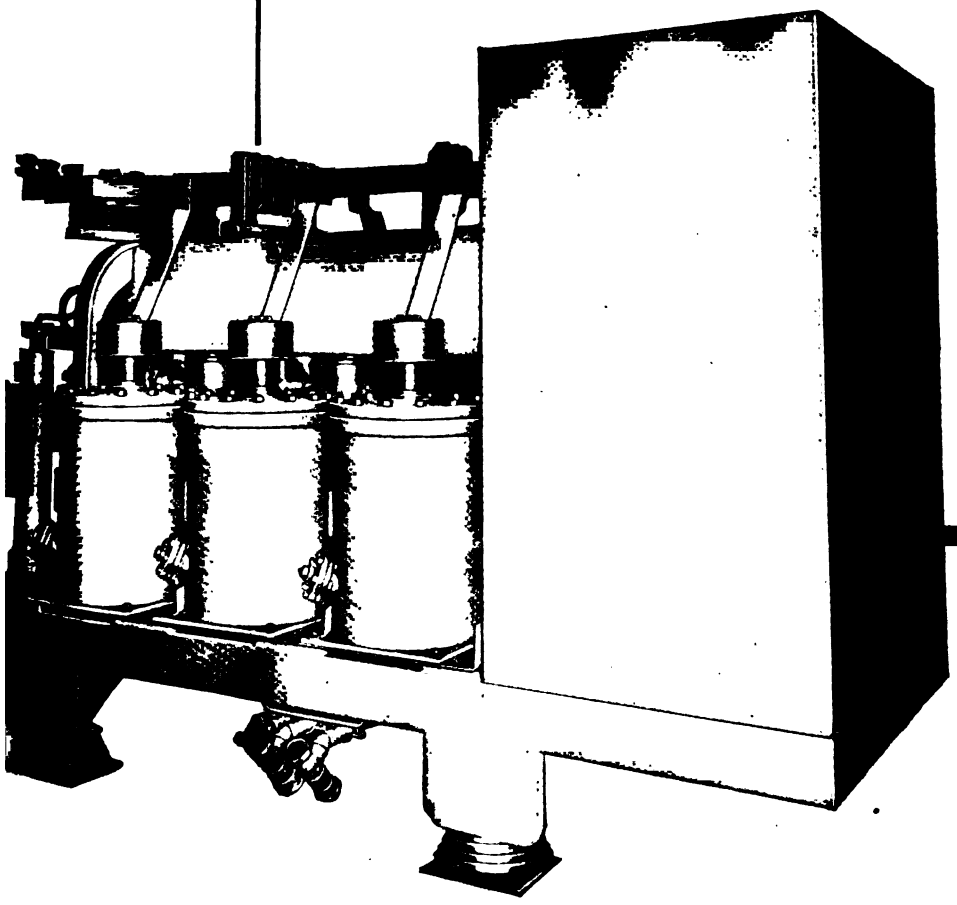
Power for the new TTC Subway trains

will be supplied by Westinghouse IGNITRONS

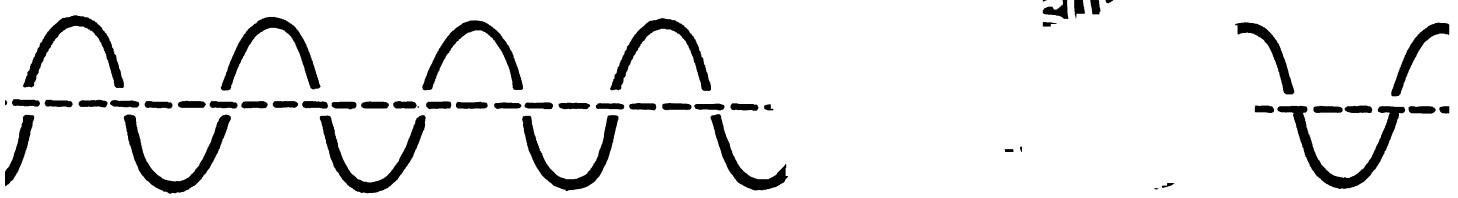
Canada's most modern transportation system uses Westinghouse Ignitron power conversion! Shown below is a 1250 KW unit of the type used by the T.T.C., part of almost 1½ million KW (one-tenth of Canada's developed horsepower) already supplied to Canadian industry by Westinghouse. A proud record!

Advantages in transportation applications are Ignitron's instantly available power, high overload capacity and efficiency over the entire load range.

Ease of installation, quiet operation, maintenance and operating savings, plus quickly available Westinghouse service if necessary, recommend Westinghouse rectifiers. Why not call the nearest Westinghouse office *now* for discussion?



WESTINGHOUSE W





The New Duplex Roomette Sleepers...

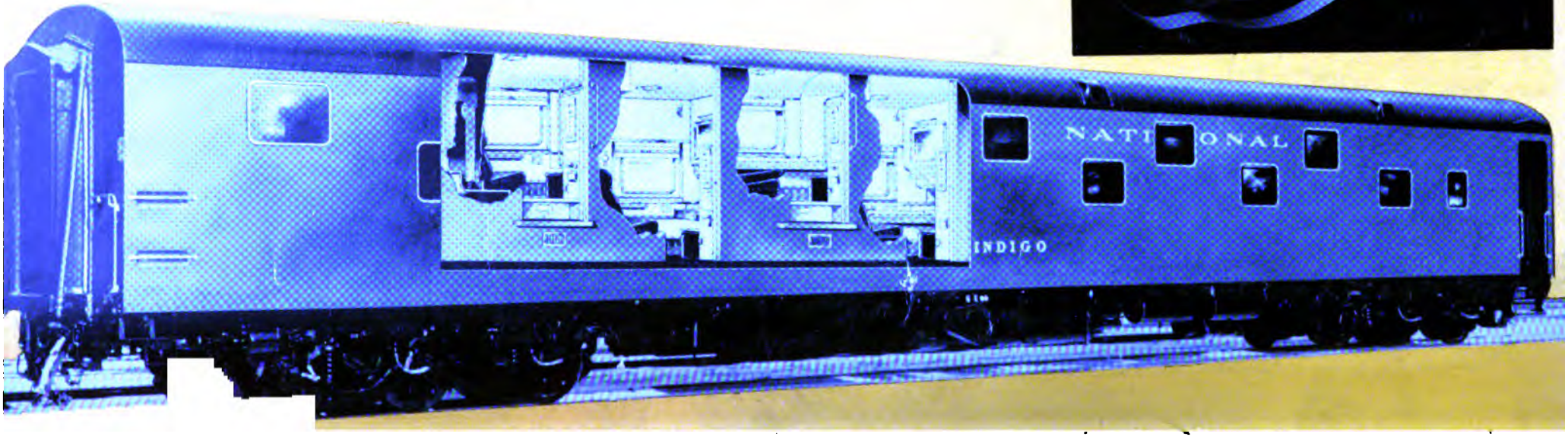
CANADIAN CAR & FOUNDRY COMPANY LIMITED

Co-operate with

CANADIAN NATIONAL RAILWAYS

to give Canadian passengers
the last word in sleeping car comfort
and convenience.





CANADIAN CAR & FOUNDRY COMPANY LIMITED

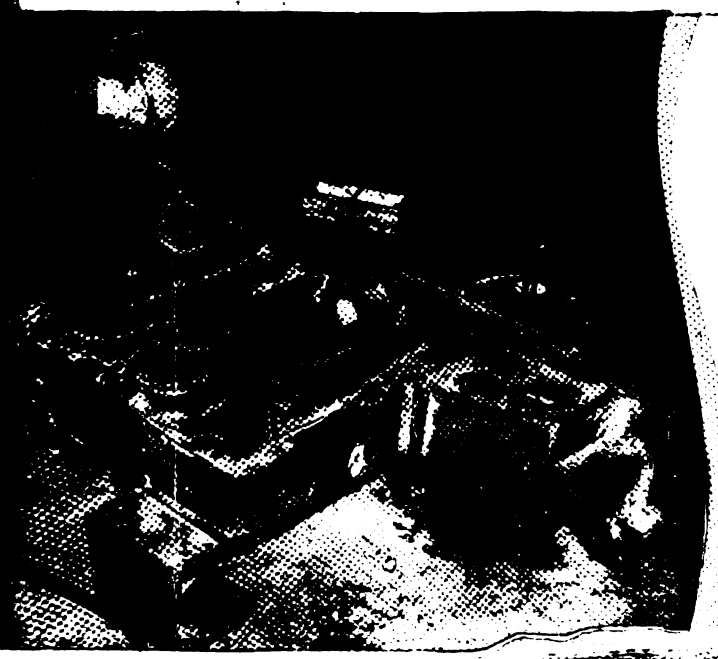
5

Canadian Transportation

Founded 1898 by Acton Burrows

TORONTO, SEPTEMBER, 1950

ELECTRIC RAILWAYS TROLLEY COACHES AUTOMOTIVE AIR MARINE



RAILROAD CASTINGS

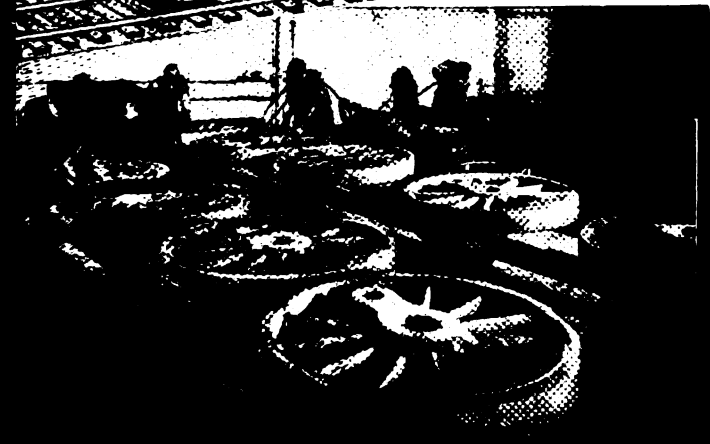
must have "what it takes" to stand up under the terrific strains and impacts of shunting operations and long hauls, and to withstand the ceaseless attacks of the elements.

That's why every unit that goes into the construction of rolling stock must be tough and durable. That's why many parts, such as driving wheels, side frames, bolsters, etc., are of cast steel, to ensure the maximum in toughness and wear-resistance.



DOMINION FOUNDRIES AND STEEL LIMITED

HAMILTON • ONTARIO



Dofasco STEEL CASTINGS

Electric Railways & Trolley Coaches, pg. 506. Air Transportation, pg. 503. Automotive Transport, pg. 515. Marine, pg. 523.

Type MBJ MECO Curve Rail Lubricator



YOU get the greatest combination of advantages possible, when you install the improved Type MBJ Meco Curve Rail Lubricator:

Capacity of the Grease Tank is quadrupled.

Actuating Mechanism is improved in all details.

Servicing and Inspection are simplified; all actuating parts, including pump, are visible and accessible without removing grease from tank.

The improved Type MBJ Meco Lubricator may be changed to other rail sections at small cost for parts.

THE P & M. CO. LIMITED

Dominion Square Bldg.
MONTREAL



OF ALL FREIGHT CARS BUILT
SINCE 1940 ARE EQUIPPED WITH
UNIT TRUCKS*



OF ALL FREIGHT CARS BUILT
DURING 1949 ARE EQUIPPED WITH
UNIT TRUCKS

Unit Truck's phenomenal sales record is the best proof of Unit's complete acceptance by the American Railroads

**Unit Truck was first approved for Interchange by the AAR on January 11, 1940*

UNIT TRUCK CORPORATION • NEW YORK



BRINE TANKS AND MEAT HOOKS FOR REFRIGERATOR CARS

Monel* offers many advantages for brine tanks and meat hooks in railway refrigerator cars. Strong and tough, Monel is a solid stain-resisting metal. Its use for brine tanks insures maximum protection against the corrosive action of the salt, ice and brine with which it is in contact. Easily welded, the joints are as corrosion-resistant as the parent metal. This combination of properties assures uninterrupted service and reduces the cost of maintenance.

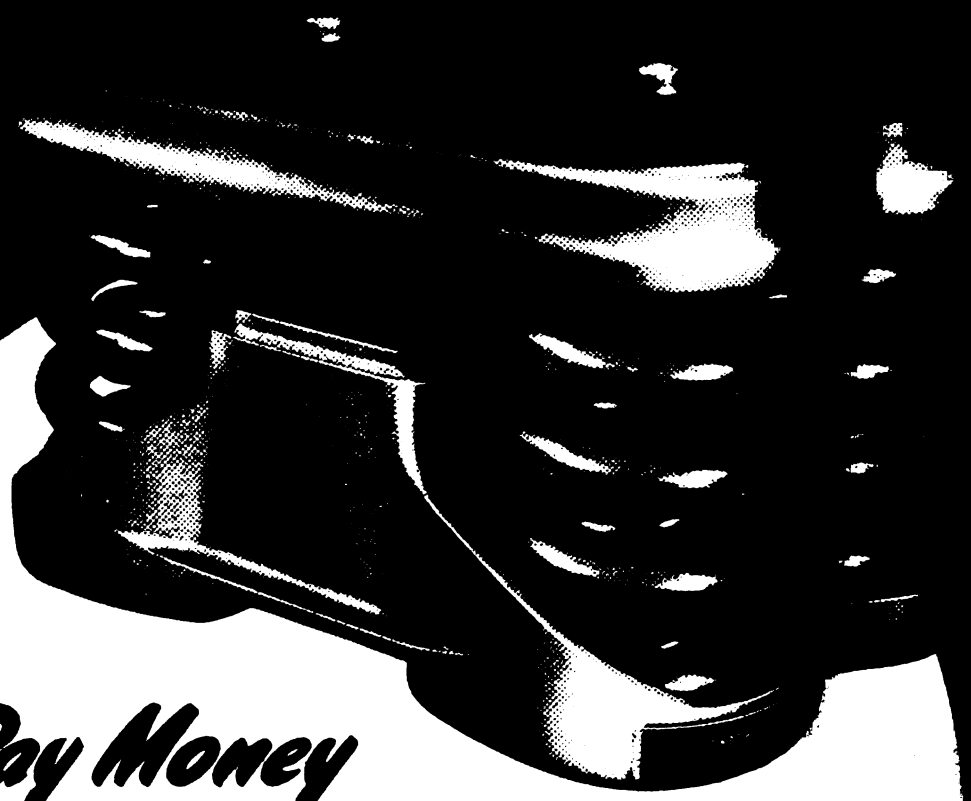
Cheaper in the long run

To-day, manufacturers and users of a wide variety of equipment regard Monel as sound investment. Case histories prove conclusively that the ultimate cost of this nickel alloy is surprisingly low.

*Trade Mark

EMBLEM OF INCO SERVICE
MONEL

THE INTERNATIONAL NICKEL COMPANY OF CANADA, LIMITED, 25 KING ST. W., TORONTO



Why Pay Money

for high maintenance and preventable lading damage when economical A·S·F Ride-Control Packages can make your *old trucks* easy-riding?

A·S·F

Ride-Control® PAC

PLUS CONSTANT FRICTI

. ALL IN ONE SELF-CON

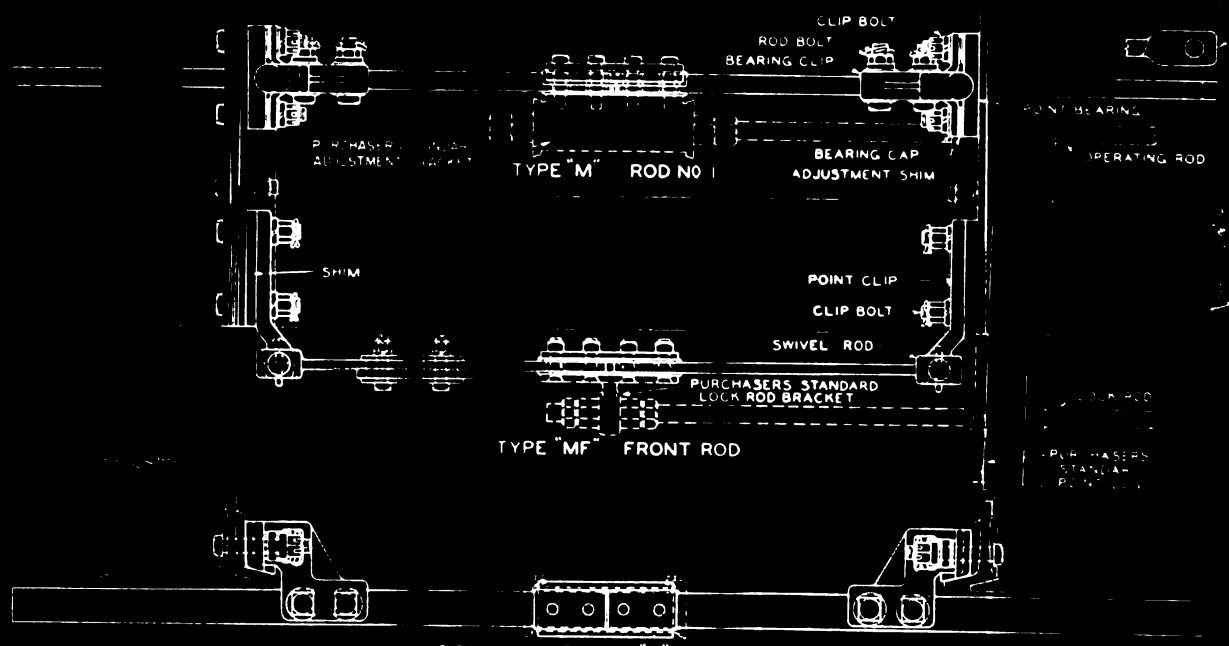
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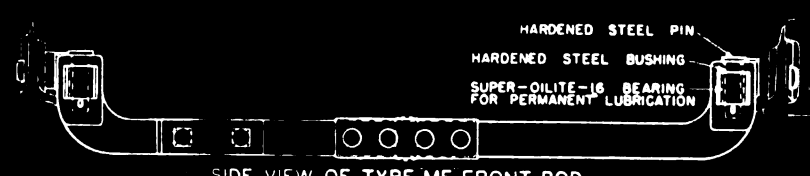
AMERICAN STEEL FOUNDRIES

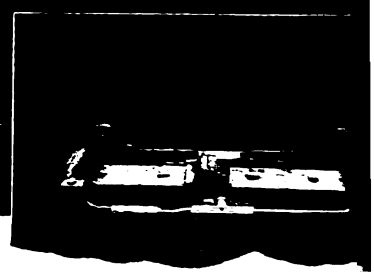
MINT MARK OF ⬡ FINE CAST STEEL



Eliminate FRONT ROD FLEXING and DISTORTIOI







...with Racor's new forged free swiveling "MF" VERTICAL FRONT ROD

RACOR'S new free-swiveling "MF" Vertical Front Rod does away with maintenance and replacement costs often experienced with conventional or rigidly bolted front rods. This new rod design is equipped with Oilite bearings and hardened steel bushings and pins — assuring easy and positive operation of switch points. When installed with Vertical Type "M", No. 1, No. 2 and additional vertical back rods, switch operation is more economical and switch maintenance is reduced.

k specia

- AUTOMATIC SWITCH STANDS
- VERTICAL SWITCH RODS
- SAMSON SWITCH POINTS
- SWITCH POINT LOCKS
- RAIL LUBRICATORS
- DEPTH HARDENED CROSSINGS
- REVERSIBLE MANGANESE STEEL CROSSINGS
- MANGANESE STEEL GUARD RAILS

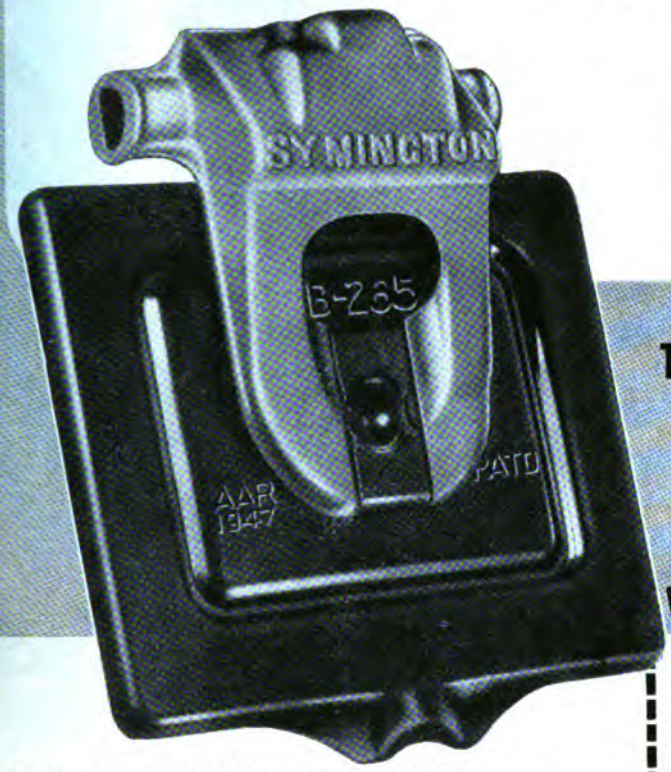
RACOR

DOMINION Brake Shoe COMPANY, LTD.

CANADIAN RAMAPO DIVISI

NIAGARA FALLS

AAR CERTIFICATE No. 1



THE *Symington** COMPOSITE ARTICULATED JOURNAL BOX LID

TESTED UNDER AAR SUPERVISION AND GRANTED AAR APPROVAL CERTIFICATE NO. 1

LIGHT WEIGHT • STURDY



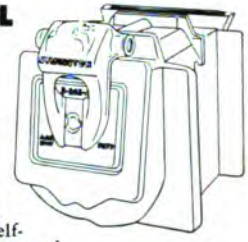
LID . . . reinforced pressing, flanged on all four sides.



HOUSING . . . cast malleable iron with hinge pin bearing surfaces of large area.

POSITIVE SEAL

CENTER PRESSURE



Provides constant, equal pressure—on all four sides of the lid. Ball and socket joint between lid and housing makes lid self-adjusting. Full articulation regardless of hinge lug wear and tight joint are ensured.

EASY TO INSTALL

1. Place in horizontal position over hinge lug.
2. Insert pin.
3. Partially close lid until spring tension is greatest. Then remove hairpin and close lid all the way —lid is installed! Simple. Easy. Quick.



Manufactured in Canada

REDUCED WEAR



1. **HINGE LUG WEAR** *reduced* by equipping the torsion spring with a roller of adequate diameter and width which bears against the hinge lug.
2. **HOUSING WEAR** *decreased* by hinge pin bearing surfaces of large area.
3. **LID WEAR** *minimized* by light weight construction and adequate center pressure to insure tight fit and prevent vibration.

ADANAC SUPPLIES LIMITED

974 ST. ANTOINE STREET -- MONTREAL

BOLT INSPECTION 1840

Back in 1840, when bolts were first produced mechanically, it is said that the buyer would test the quality of such a bolt by biting it.



What makes a bolt better?



1 PRODUCTION
Stelco bolts and nuts are produced from the finest materials by expert craftsmen.



2 INSPECTION
Close inspection during production assures close tolerances, clean-cut threads, top quality in every detail.

3 SHIPPING — *Bolts and nuts are shipped in wire stitched containers, clearly labelled, to make them easy of access.*

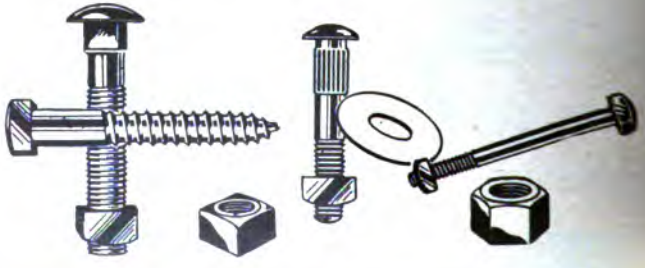


STELCO
THE MARK OF QUALITY

EXPERIENCE and MODERN METHODS

The passing years have brought big changes in both manufacturing and buying practices.

Instead of biting the bolt, the wise buyer, nowadays, looks for the name "Stelco". No further assurance is ever needed. Because the Stelco trademark guarantees the quality, the uniformity, the top value, made possible through Stelco's long experience and the most modern production methods.



THE STEEL COMPANY OF CANADA, LIMITED

EXECUTIVE OFFICES
HAMILTON - MONTREAL

STELCO
THE MARK OF QUALITY

SALES OFFICES:
HALIFAX, SAINT JOHN, MONTREAL, OTTAWA, TORONTO, HAMILTON, LONDON, WINDSOR, WINNIPEG, VANCOUVER
J. C. PRATT & CO. LIMITED, ST. JOHN'S, NEWFOUNDLAND

MINER
CLASS A-22-XL



FRICTION DRAFT GEAR

for

40
50
70
100

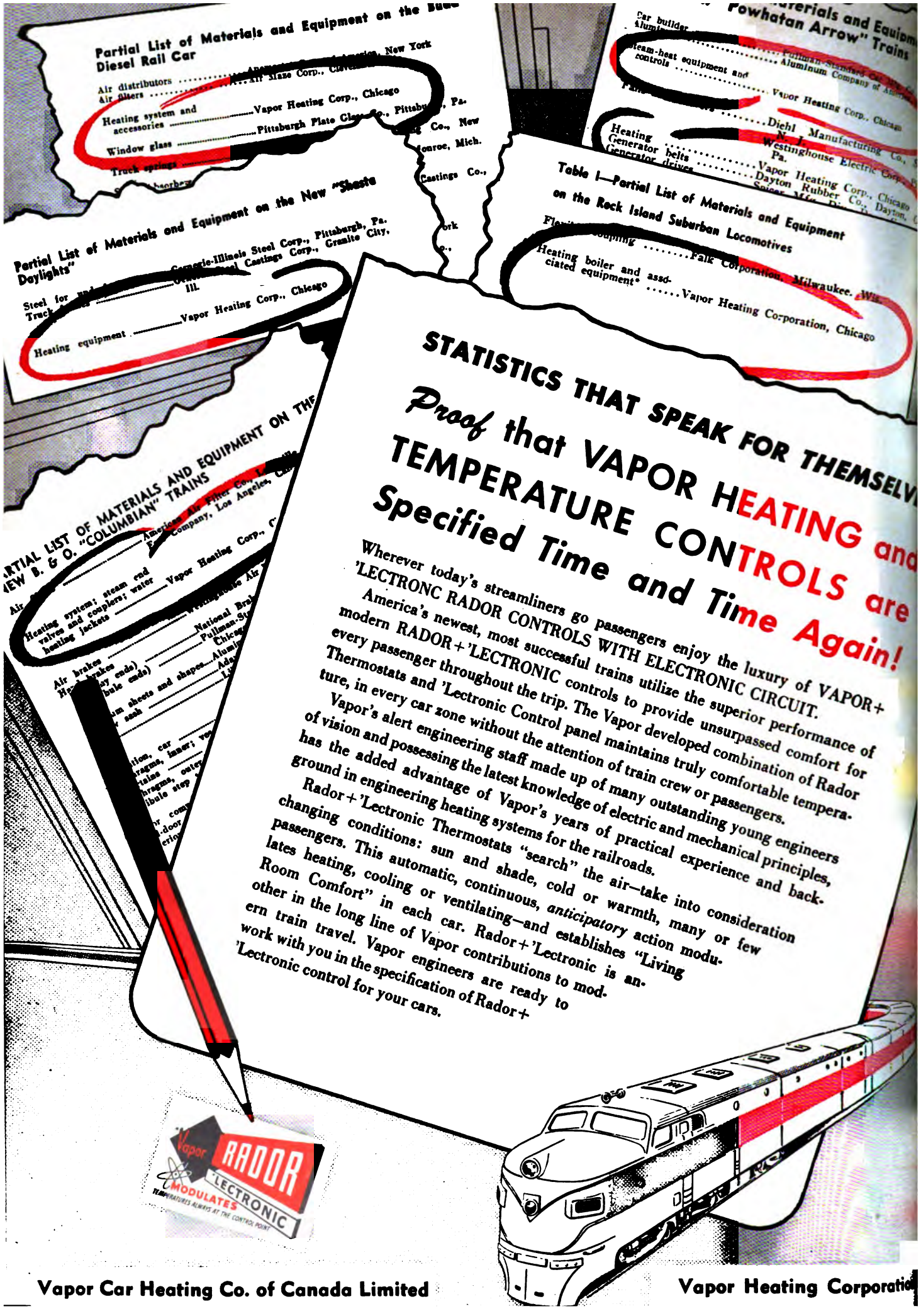
} TON CARS

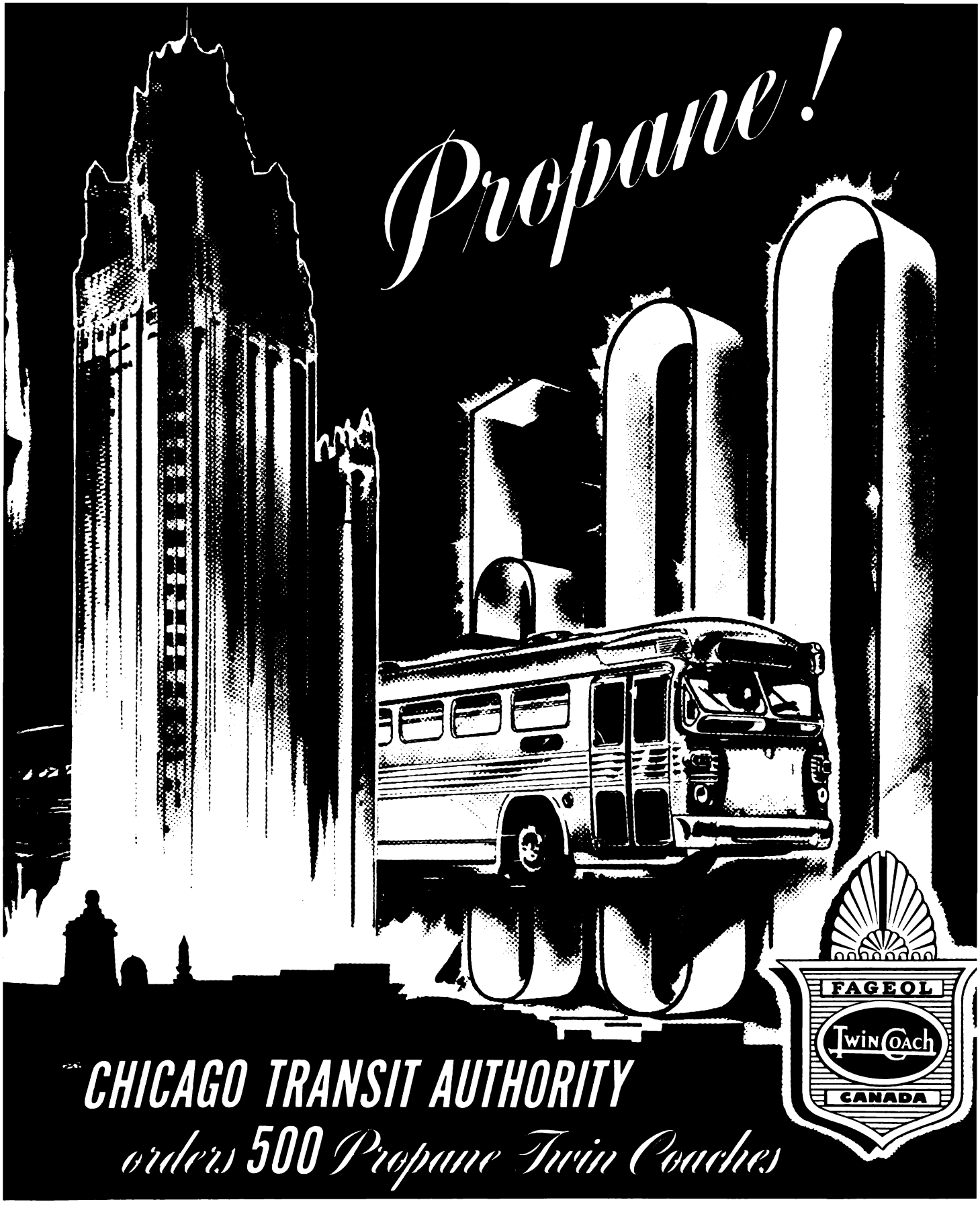


CANADIAN APPLIANCE CO., LTD.
MONTREAL

W. H. MINER, INC.
CHICAGO

Made in Canada


Partial List of Materials and Equipment on the Diesel Rail Car
Air distributors
Air filters
Heating system and accessories
Vapor Heating Corp., Chicago
Window glass
Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Truck springs
Partial List of Materials and Equipment on the New "Shasta Daylights"
Steel for
Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Truck
Ill.
Heating equipment
Vapor Heating Corp., Chicago
Powhatan Arrow" Trains
Car builder
Steam-heat equipment and controls
Aluminum Company of America
Vapor Heating Corp., Chicago
Heating
Diehl Manufacturing Co.,
Generator belts
Westinghouse Electric Corp.,
Generator drives
Vapor Heating Corp., Chicago
Dayton Rubber Co., Dayton,
Table I—Partial List of Materials and Equipment on the Rock Island Suburban Locomotives
Heating boiler and associated equipment
Vapor Heating Corporation, Chicago
RTIAL LIST OF MATERIALS AND EQUIPMENT ON THE
EW B. & O. "COLUMBIAN" TRAINS
Heating system; steam end valves and couplers; water heating jackets
Vapor Heating Corp.,
Air brakes
Pullman-Standard
Chicago
Aluminum sheets and shapes
STATISTICS THAT SPEAK FOR THEMSELVES
Proof that VAPOR HEATING and TEMPERATURE CONTROLS are Specified Time and Time Again!
Wherever today's streamliners go passengers enjoy the luxury of VAPOR+'LECTRONC RADOR CONTROLS WITH ELECTRONIC CIRCUIT. America's newest, most successful trains utilize the superior performance of modern RADOR+'LECTRONIC controls to provide unsurpassed comfort for every passenger throughout the trip. The Vapor developed combination of Rador Thermostats and 'Lectronic Control panel maintains truly comfortable temperature, in every car zone without the attention of train crew or passengers. Vapor's alert engineering staff made up of many outstanding young engineers of vision and possessing the latest knowledge of electric and mechanical principles, has the added advantage of Vapor's years of practical experience and background in engineering heating systems for the railroads. Rador+'Lectronic Thermostats "search" the air—take into consideration changing conditions: sun and shade, cold or warmth, many or few passengers. This automatic, continuous, *anticipatory* action modulates heating, cooling or ventilating—and establishes "Living Room Comfort" in each car. Rador+'Lectronic is another in the long line of Vapor contributions to modern train travel. Vapor engineers are ready to work with you in the specification of Rador+'Lectronic control for your cars.
Vapor
RADOR
'LECTRONIC
MODULATES
TEMPERATURES ALWAYS AT THE CONTROL POINT
Vapor Car Heating Co. of Canada Limited
Vapor Heating Corporation



TWIN COACH OF CANADA, LTD.

200 MADISON AVENUE • TORONTO 5, ONTARIO

hy did Chicago select

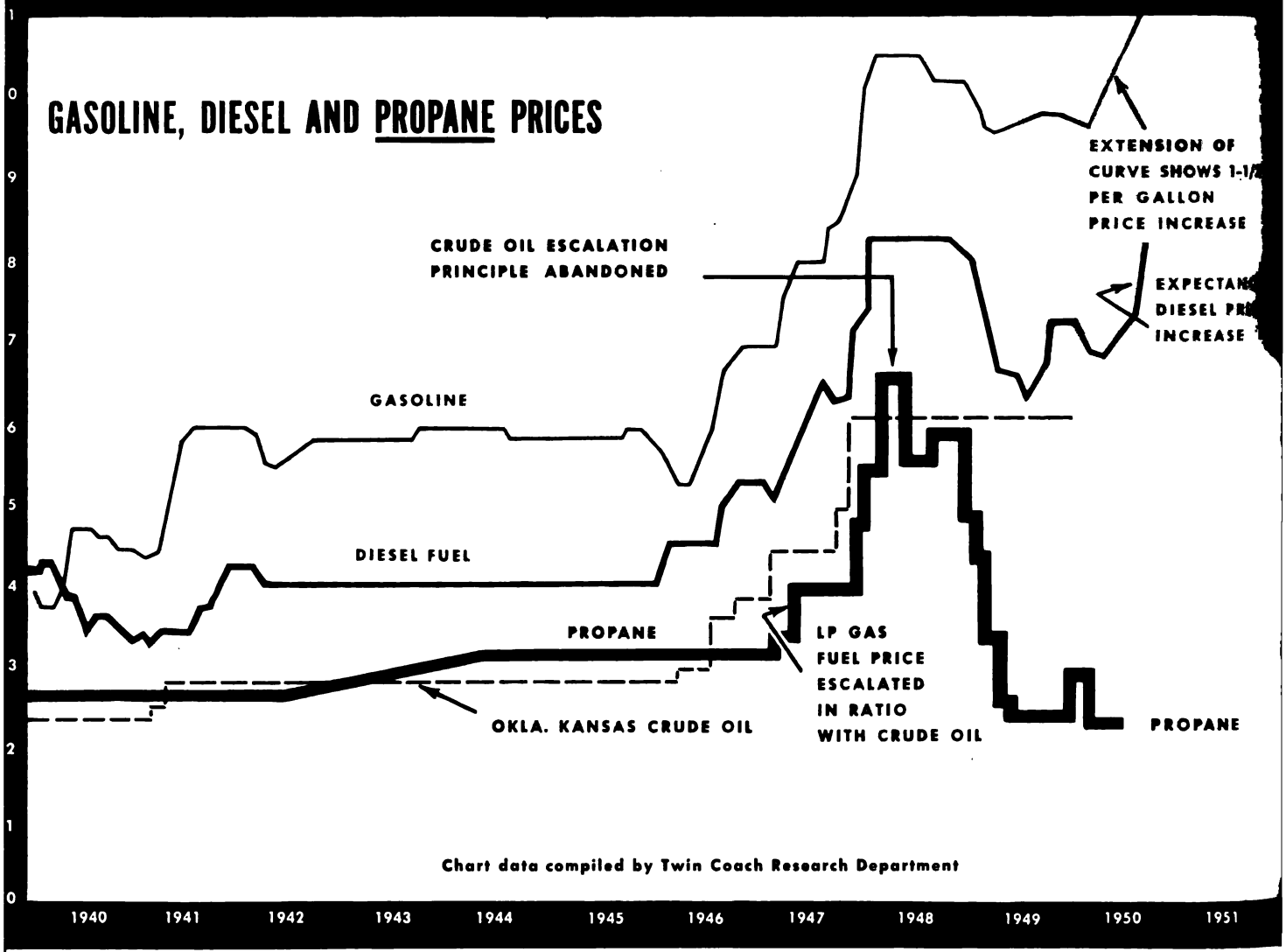
rane Twin Coaches?

* "CTA's decision to buy Propane buses was preceded by an intensive survey. Two major factors influencing our decision are the exceptionally low cost of fuel and its safety...

"On fuel costs alone, we hope to realize an operating saving up to 2 cents per mile. There is reason to believe that there will be additional savings resulting from reduced maintenance, lubricating and overhauling costs."

Ralph Budd

As gasoline and diesel prices have gone up
Cost of PROPANE has come down!



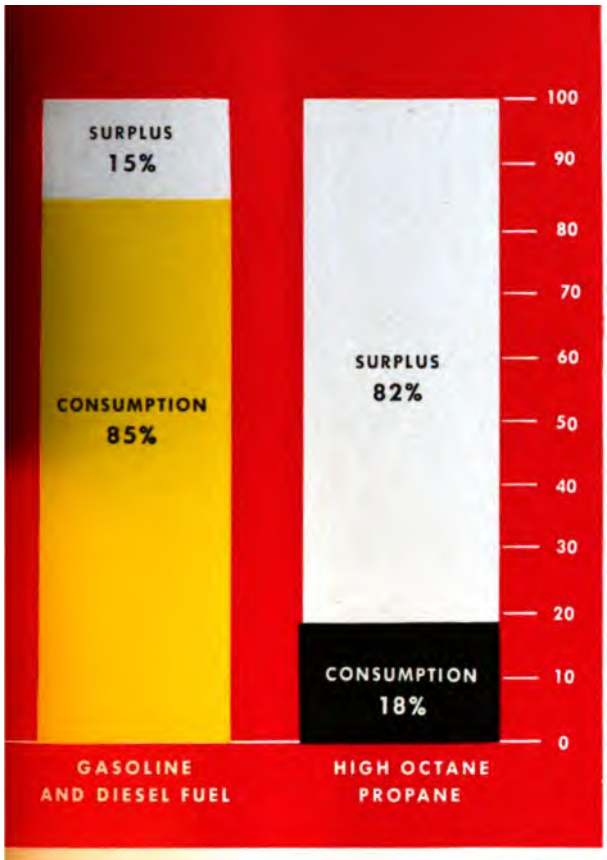
This chart is deserving of careful study by every progressive transit executive.

One of the reasons why leading transit properties have recently ordered Propane-powered Twin Coaches is clearly illustrated by this chart. Cost of Propane has steadily remained far lower than either gasoline or diesel fuel. Today with gasoline and diesel prices approaching new highs, Propane is selling at lower prices than in 1940. As gasoline and diesel prices have gone up—the cost of Propane has come down!

FAGEOL Twin Coach

L. J. Fageol is the originator of today's modern Propane-powered Twin Coaches. His research and experimentation with Propane dates back to 1935. Six years ago he introduced the Fageol Twin Coach 10 to 1 compression ratio engine... the only motor coach engine expressly designed for operation on 125 octane Propane.





Propane Supply far Exceeds Forseeable Demand

Over 85% of America's gasoline and diesel productive capacity is now being utilized to satisfy our daily requirements. There is a bare 15% surplus.

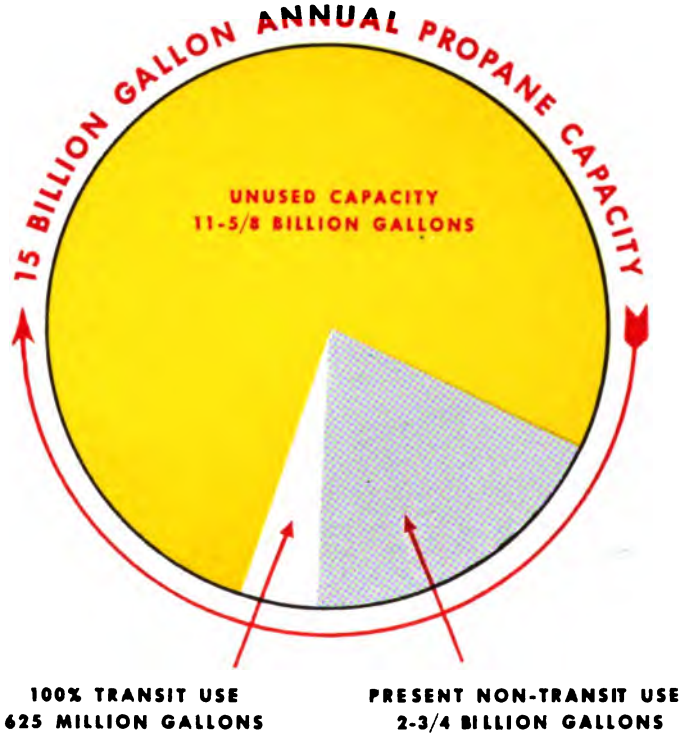
By sharp contrast, only 18% of the total Propane capacity is being used today. There is a vast, available surplus of 82%.

Consider carefully what this will mean in the event of "all out" warfare or other emergencies.

Rising transit demand will have little or no effect on Propane supply or price!

If the transit industry were to immediately operate 100% on Propane, there would be no appreciable effect on either Propane supply or price structure.

Present annual Propane capacity is 15 billion gallons. Only 2-3/4 billion gallons are now being used for non-transit purposes. The addition to this of the total potential transit demand of 625 million gallons would mean an annual consumption of only 3-3/8 billion gallons. There would still be 11-5/8 billion gallons of unused, surplus Propane capacity.



Twin Coach leads on all counts!

- Propane saves up to 2 cents per mile on fuel.
- Propane cuts maintenance expense to a new minimum.
- Propane extends time between engine overhauls up to 50%.
- Propane eliminates obnoxious exhaust fumes and smoke.

Propane

...the trend has become an avalanche



L. J. Fageol, Twin Coach Co. president, announced the world's first complete line of Propane-fueled buses on March 30.

And, in so doing, he marked the beginning of a new era in urban transportation.

Propane—low-priced, efficient, clean, odorless, colorless, safe—is the world's finest motor fuel.

The trend toward Propane is fast becoming an avalanche. Leading properties throughout the country are ordering Propane-powered Twin Coaches—or are converting their postwar Twin Coaches to Propane operation.

LEADING TRANSIT PROPERTIES HAVE NEW PROPANE-POWERED TWIN COACHES, OR CONVERSIONS, IN OPERATION OR ON ORDER

Asbury Rapid Transit System
Los Angeles, California

Bridge Transit Co.
Louisville, Kentucky

British Columbia Electric Railway Co., Ltd.
Vancouver, B. C.

Capital Transportation Co.
Little Rock, Arkansas

Chicago Transit Authority
Chicago, Illinois

City of Edmonton Transit System
Edmonton, Alberta

City Utilities of Springfield, Mo.
Springfield, Missouri

Fort Wayne Transit, Inc.
Fort Wayne, Indiana

Fort Worth Transit Co., Inc.
Fort Worth, Texas

Galveston Transit Co.
Galveston, Texas

Hannibal Transportation Co.
Hannibal, Missouri

Harrisburg Railways Co.
Harrisburg, Pa.

Kansas City Public Service Co.
Kansas City, Missouri

Metropolitan Bus Lines
Phoenix, Arizona

Northern Transit Co.
Fargo, North Dakota

Omaha & Council Bluffs Street Railway Co.
Omaha, Nebraska

Philadelphia Transportation Co.
Philadelphia, Pennsylvania

San Antonio Transit Co.
San Antonio, Texas

Wichita Transportation Corp.
Wichita, Kansas

Winnipeg Electric Co.
Winnipeg, Manitoba

Propane-powered Twins are always available for demonstration on your property.

TWIN COACH OF CANADA,

BAKER TRUCKS *improve handling efficiency*



- in Railway Stores and Yards.
- in Freight and Baggage Depts.
- in Roundhouses and Shops.



(Left, above) Baker Locomotive Type Crane Truck with telescoping boom and auxiliary boom simplifies removing and applying locomotive parts in the roundhouse.

(Left) Specially built Baker Low Lift Trucks with extra long platforms make easy work of handling LCL containers on or off cars and highway delivery trucks.



(Above) Besides its many services in the shop, Baker Hy-Lift Trucks help apply heavy parts to passenger cars.





(Above) Baker Fork Truck with special attachment solves "wheel rolling". Truck handles one to six wheels safely and quickly—completely mechanizing this hazardous task.

(Above) Baker Utility Platform Trucks serve in many ways in terminals and stores departments.

(Right) Baker Low Lift Trucks speed car loading and unloading. Maneuverability permits them to enter box car easily and spot loads inside cars.



(Left, below) Baker Baggage Trucks carry express and baggage in railway terminals. One terminal reports that cost averages around 5¢ per mile.



In addition, all trucks in service are inspected regularly by a Baker-Raulang service man.



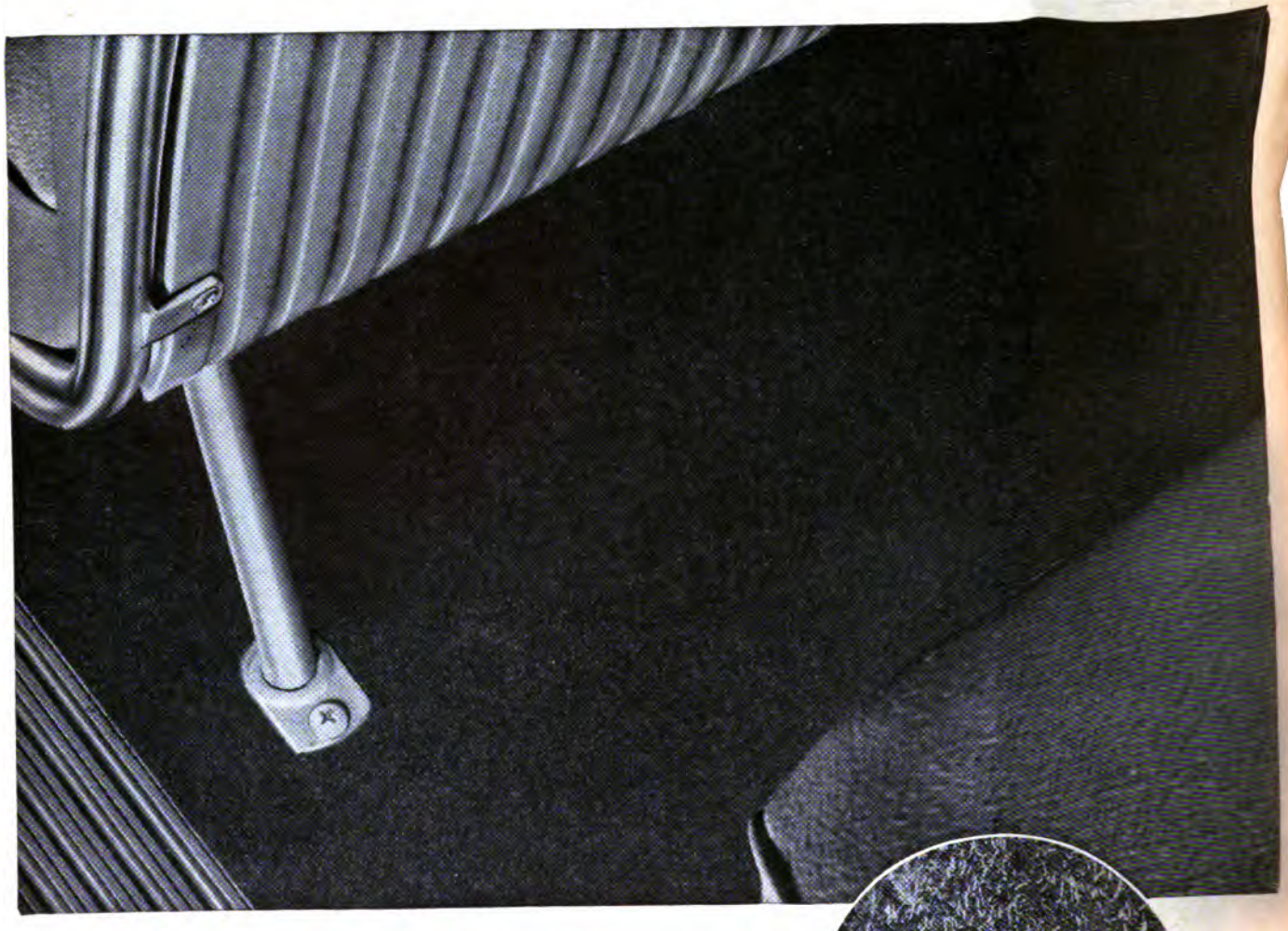
(Above) Baker Tractors haul **single** trailers or long trains in terminal warehouses and on platforms. They operate smoothly, quietly, and efficiently.

Baker Trucks are sold and serviced in Canada by

RAILWAY & POWER ENGINEERING *Corporation Limited*

NEW GLASGOW • MONTREAL • NORANDA • NORTH BAY
TORONTO • HAMILTON • WINDSOR • WINNIPEG
EDMONTON • VANCOUVER

Save $400 per vehicle



Specify the right underseat flooring now... get years of extra life!



Microphotograph shows "toothy" fibrous texture of Rub-Bub compound. Never slippery WET OR DRY.

SELECTION of underseat flooring is no trivial matter. Untimely replacement involves costly removal of seats and fittings which averages $400 A VEHICLE. This is in addition to the flooring life you bought BUT DIDN'T GET!

PLAY IT SAFE—specify the *preferred* flooring of the transit industry. Actually, over 70% of all urban transit vehicles built last year were equipped with Rub-Bub safety flooring. *There must be a reason.* There is.

IT LASTS LONGER. Typical example: A major transit operator rehabilitated 130 vehicles after seven punishing years of wartime service. Not a single seat was moved and *not a single foot of Rub-Bub* Safety Underseat Flooring had to be replaced.* It showed little appreciable wear even after seven long, hard years.

That's the flooring for your vehicles. Specify Rub-Bub safety flooring under seats, on steps and platform, and down the aisle. Make the right decision *now* and save money for years and years and years.

*T.M. REG. U. S. PAT. OFF.

RUB-BUB
Transportation Products

SAMUEL MOORE & CO. MANTUA, OHIO

IN CANADA | SAMUEL MOORE & CO. OF CANADA, LTD.
Represented in Canada exclusively by
RAILWAY & POWER ENG. CORP.

TIMKEN® announces first Canadian-made railroad roller bearings

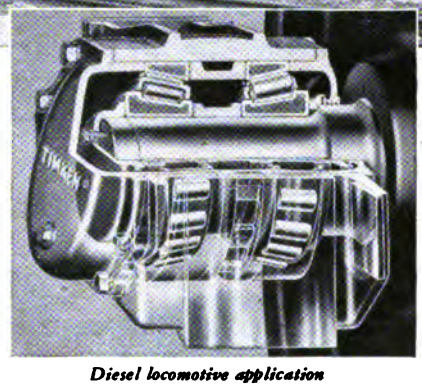


FOR the first time in history, railroad roller bearings are being produced in Canada for use on Canadian-built diesel locomotives and passenger cars. These Timken® tapered roller bearings are now manufactured at the St. Thomas plant of The Timken Roller Bearing Company. Already they are being used on streamlined diesels built at the Montreal Locomotive Works. Two of these locomotives are shown above.

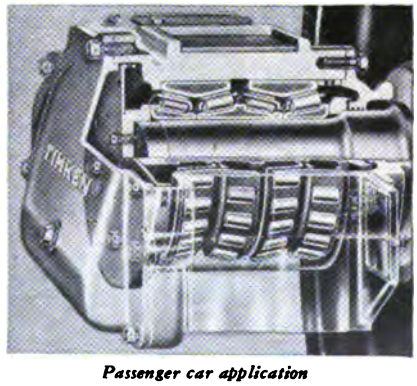
Since 1930 Canadian railroads have been insuring trouble-free higher speeds and greater riding comfort by equipping passenger cars and diesel locomotives with Timken bearings. Now it will be possible for them to use *Canadian-Made* Timken bearings to gain these same advantages.

Timken bearings eliminate all speed restrictions due to bearings. They reduce starting resistance a whopping 88%, providing smoother stops and starts and a gliding ride. "Hot box" delays are eliminated, maintenance time cut. There's *no other bearing with so much to offer—no other bearing so fully proved—no other railroad roller bearing made in Canada!*

The Timken Roller Bearing Company, St. Thomas, Ontario. Cable address: "TIMROSCO". Canadian Representatives for Timken Bearings for Railroads: Railway & Power Engineering Corp., Ltd., New Glasgow, Montreal, Noranda, North Bay, Toronto, Hamilton, Windsor, Winnipeg, Edmonton, Vancouver.



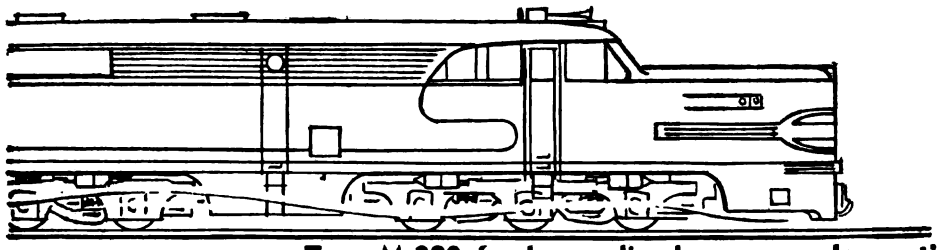
Diesel locomotive application

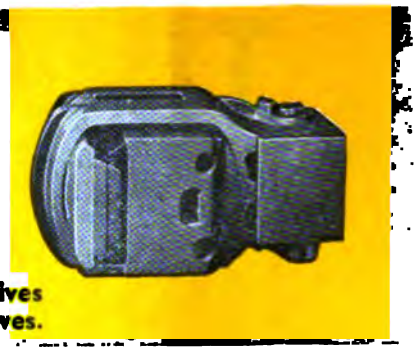


Passenger car application

TIMKEN TRADE-MARK REG. U. S. PAT. OFF. AND IN CANADA *TAPERED ROLLER BEARINGS*

NOT JUST A BALL ○ NOT JUST A ROLLER ▭ THE TIMKEN TAPERED ROLLER ▭ BEARING TAKES RADIAL ↓ AND THRUST →○← LOADS OR ANY COMBINATION →○←





Type M-380 for heavy diesel passenger locomotives and diesel and electric freight locomotives.

SMOOTH RIDING FROM COAST TO COAST with NATIONAL Rubber-Cushioned Draft Gears

Produced in Canada for Canadian railroads

NATIONAL Rubber-Cushioned Draft Gears enable you to take full advantage of the power of modern diesel and electric locomotives, and provide increased protection to equipment and ladings. That's because:

NATIONAL Rubber-Cushioned Draft Gears have no tendency to creep under sustained tractive force, yet are continuously responsive during starting, stopping and running.

NATIONAL Rubber-Cushioned Draft Gears act softly under slowly applied loads, yet have great reserves of cushioning capacity for shock or impact.

Low maintenance costs result from the effective over-all design and long-life construction of NATIONAL Rubber-Cushioned Draft Gears. They are recognized for their important advantages in operation and maintenance. For your diesel and electric locomotives, specify NATIONAL Rubber-Cushioned Draft Gears.

Represented in Canada by

RAILWAY & POWER ENGINEERING *Corporation Limited*

NEW GLASGOW • MONTREAL • NORANDA • NORTH BAY
TORONTO • HAMILTON • WINDSOR • WINNIPEG
EDMONTON • VANCOUVER



Don't monkey around with fragile profits!

Insure production economies with Cherry Rivets



Don't mar surfaces—You won't crack or mar porcelain and other highly finished surfaces with Cherry Rivets. Tool slippage is eliminated...Cherry tools are designed so that the face of the tool always clears the work.



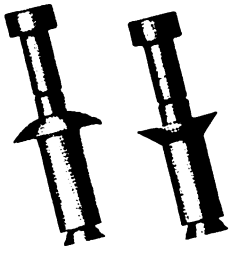
Faster work — Cherry Rivets can be installed by unskilled labor with assurance of permanent and lasting joints. Installing Cherry Rivets is a one-man job . . . done from one side of the work. Cherry Rivets are easy to handle . . . save labor costs.

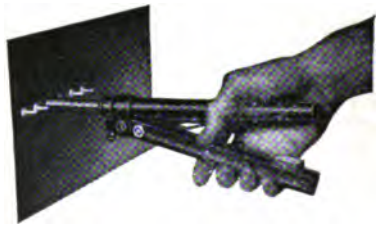


Tamperproof—Cherry Rivets protect your product against vandalism and carelessness. Yet Cherry Rivets are quickly and simply drilled out with proper tools in the hands of authorized service men.

How they work — Cherry Rivets are installed with a pull; there's no pounding, twisting, or exploding. The pulling action exerted by the tool pulls the stem through the rivet — first clinching the mating sheets together and then expanding the shank of the rivet to fill the hole. Where screws or nuts and bolts work loose and shake out, Cherry Rivets can't fail in properly-sized holes.

For specific information about the proper Cherry Rivet for your work, write us or fill out the coupon below.





CHERRY RIVET COMPANY

Canadian Distributor

RAILWAY & POWER ENGINEERING CORP., LTD.

Glasgow Montreal Noranda North Bay Toronto Hamilton Windsor Winnipeg Edmonton Vancouver

RAILWAY & POWER ENGINEERING CORP., LTD.
169 EASTERN AVE., TORONTO

- ☐ DRIVE-PIN RIVETS
- ☐ CHERRY BLIND RIVETS
- ☐ LOCK BOLTS
- ☐ CHERRY TOOLS
- ☐ BLIND BOLTS
- ☐ UTILITY RIVETS

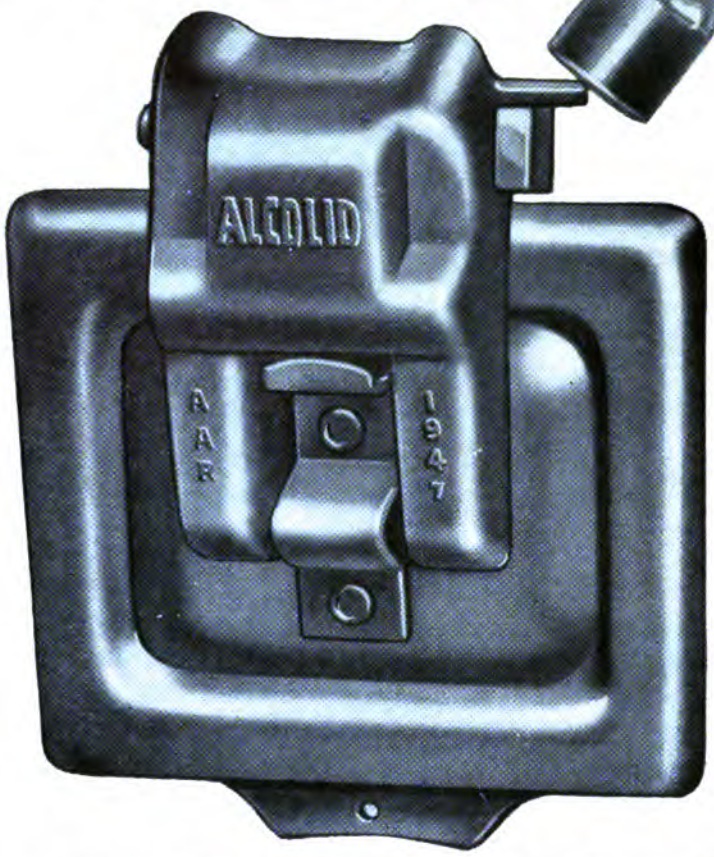
Please send me detailed information on Cherry Rivet Company products as checked here:

Name_____ Firm_____

Address_____

City_____ Province _____

NO PIN ROTATION



The square-headed retaining pin is held securely in place by a flanged hood ear bent over the pin head as an anvil.

NO EYE ELONGATION

ALCOLID®

TRADE MARK REGISTERED

THE LIFETIME JOURNAL BOX LID

Manufactured in Canada under license from American Locomotive Co. Enquiries invited

NATIONAL STEEL CAR

HEAD OFFICE: HAMILTON, ONTARIO *Corporation Limited* SALES OFFICE: MONTREAL, QUEBEC

ANOTHER ECONOMY WITH *Chilled Tread Wheels*

33⅓%-50% GREATER TRADE IN VALUE THAN OTHER TYPES OF WHEELS

Chilled Tread Wheels save money all ways. Less rail wear, less brake-shoe wear, less flange wear, less rim wear . . . and then even after Chilled Tread Wheels have built up a heavy mileage and are ready for honourable discharge from service, they provide yet another important economy. Their scrap value is greater than that of wheels made of other metals . . . Chilled Tread Wheels should be first choice for all-round service and economy.



METALLURGICAL POINTS IN FAVOUR OF CHILLED TREAD WHEELS

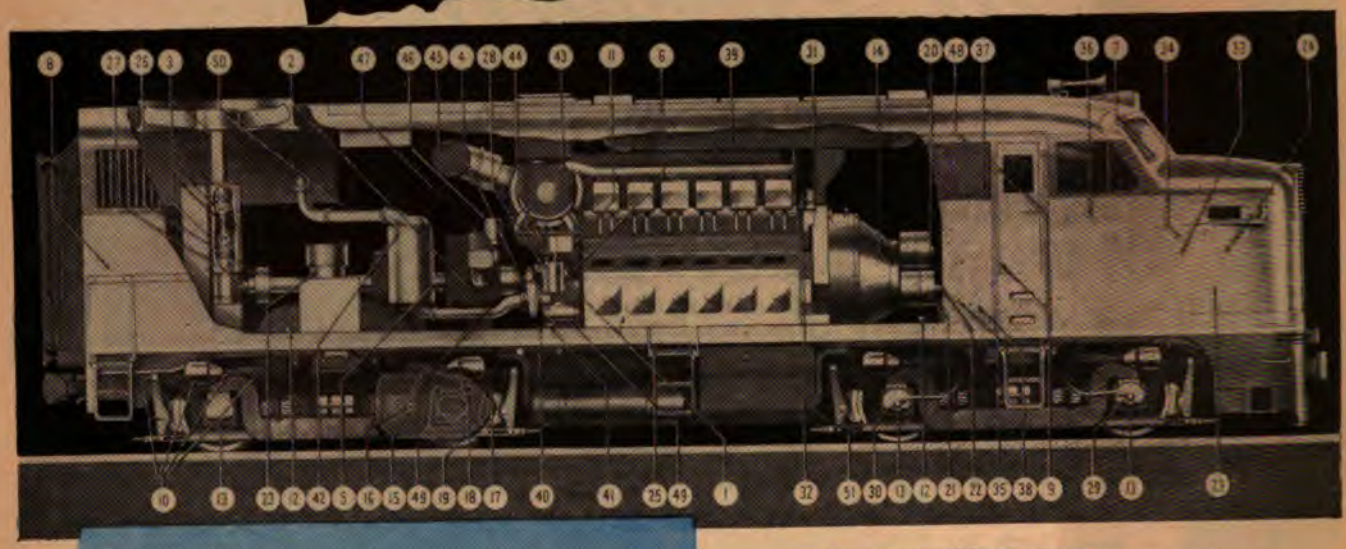
1. Rotundity tests to .025 inch. (Standard A.A.R. is .031".)
2. Chill test locks taken at regular short intervals during pouring operation. Maximum and minimum chill limits fixed by Brinell tests.
3. Pyrometric check for processing temperatures and chemical analysis for each heat.
4. Finished wheel subjected to regular Drop-tests. (A.A.R. specifications.)
5. Thermal tests. (A.A.R. specifications.)



Chilled Tread Wheels are Manufactured in Canada by

CANADA IRON FOUNDRIES LIMITED
CANADIAN CAR & FOUNDRY CO. LIMITED
DOMINION WHEEL & FOUNDRIES LIMITED

GETTING *MAXIMUM* POWER FROM DIESEL ELECTRICS



1. Crankcase
2. Air Compressor
3. Fan drive shaft
4. Flexible coupling
5. Flexible coupling
6. Diesel engine turning device
7. Windshield wiper
8. Hand brake
9. Latches, hinges, doors
10. Air brakes
11. Governor linkage
12. Centre plate cups
13. Motor truck box
14. Traction generator main bearing
15. Traction motors
16. Traction motors
17. Traction motors
18. Traction motors
19. Traction motors
20. Amplidyne exciter
21. Auxiliary generator
22. Blower generator
23. Traction motor blower motors
24. Motor alternator set
25. Fuel pump
26. Eddy current clutch
27. Radiator fan gear box
28. Engine governor system
29. Speedometer tachometer generator
30. Loss relay tachometer generator
31. Governor tachometer generator
32. Crankcase exhauster motor
33. Cab heater motor
34. Defroster motor
35. Reverser
36. Controller
37. Electro pneumatic contactors
38. Transfer and braking switch
39. Braking resistor blower motor
40. Fuel oil duplex pump suction
41. Fuel oil pump discharge
42. Lubricating oil
43. Turbosupercharger Lube Oil
44. Governor oil filter
45. Turbosupercharger air
46. Air compressor intake
47. Air compressor breather
48. Engine room
49. Air compressor
50. Radiator shutter
51. Fuel oil tank drain

CORRECT LUBRICATION *is essential*

The many lubrication points in diesel locomotives require a variety of specialized lubricants. Seventy years of co-operative effort of Canadian railways and Imperial Oil Limited have given Imperial Oil a particular understanding in this field. When surveying the needs of Canada's great transportation systems Imperial Oil Railway Sales Engineers utilize a lifetime of experience.

GALENA LUBRICANTS

IMPERIAL OIL LIMITED
EVERYWHERE IN CANADA

IMPERIAL ESSO SERVICE



DULUX has the answer...

No weather is too bad for Bell Telephone service trucks . . . no roads too choked with mud or snow. The tougher the going, the more urgent the need to keep the wires open.

Service like that demands a finish which can take grinding punishment, yet still preserve the smart, shop-new appearance which so helps to foster favourable public opinion.

For the Bell Telephone Company of Canada, as for so many big fleet-owners, DULUX has the answer. DULUX keeps its brilliant lustre, retains its colour, is easy to keep clean. It cuts paint maintenance costs, and when repainting *is* necessary, its quick-drying qualities get equipment back on the road faster.

★ ★ ★

Paint and Varnish Division. Halifax, Montreal, Toronto. Winnipeg, Regina, Calgary, Edmonton, Vancouver.

★ ★ ★

**DULUX and DUCO are registered trade names of Canadian Industries Limited*

CANADIAN INDUSTRIES LIMITED

"Serving Canadians through Chemistry"

CANADIAN INDUSTRIES C-I-L LIMITED

Automotive Finishes

How to Handle Lading

WITH KID GLOVES



Built in Canada, for Canadian railways, the MLW-GE freight diesel-electric locomotive has abundant power under precise control for every operating need: instant response at a fast, smooth, steady rate for acceleration, hitting a grade, or free running on the level. Power response is immediate on the first and each following throttle notch, no waiting. Throttle may be advanced quickly for smooth start and rapid acceleration, but with each step under positive control to insure smooth handling of train and lading.

Keystone of this highly sensitive control system is the new amplidyne exciter, which makes possible the use of much smaller, quicker-acting relays, contactors, switches and other control devices. Because this exciter gives high amplification to control signals, the power used in the control circuits is relatively low, permitting use of compact but highly reliable control devices, many of them having no moving parts.

Because of their unusual compactness, all the devices required in the cab can be located in accordance with their relative importance and frequency of use. Whether the engineer is turning on the headlight, notching up the throttle, or applying air, he has all the controls at his fingertips. Even the lever-operated windows can be raised or lowered more quickly.

But, more important to the operation of the locomotive than all of this new equipment, is the man behind the throttle. No detail has been overlooked that will increase his efficiency. Full modulation of defrosters and scientifically-designed windshields provide maximum visibility. Specially developed seats—adjustable three ways—minimize fatigue. Ultra-violet, "black" light on the instrument panel eliminates glare and eyestrain. In this locomotive, the engineer has the best working conditions—and the best equipment with which to work.

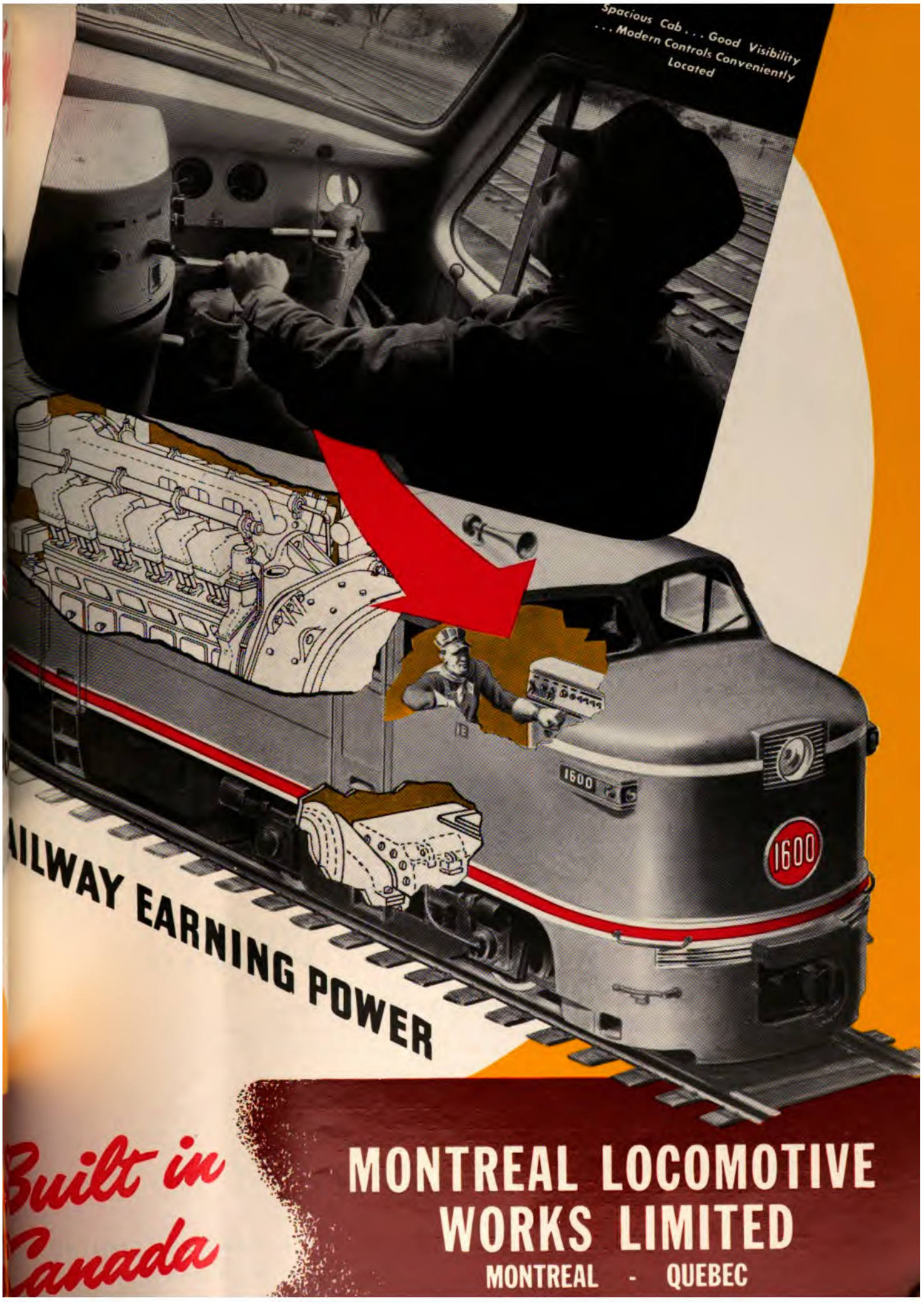
The control system is only one of the many new features of the "1600hp". The turbo-supercharged diesel engine, the railway-type generator and traction motor, the power plant load regulator, the engine-cooling system—all combine to insure smooth, safe operation at all times and at all speeds. Ask your MLW-GE representative to give you specific information.

50-BM-6

Electrical Components
Manufactured by
CANADIAN GENERAL ELECTRIC COMPANY LIMITED

D.E.W.

ALCO-DIESEL Engines
Manufactured by
DOMINION ENGINEERING WORKS LIMITED


Spacious Cab . . . Good Visibility
. . . Modern Controls Conveniently
Located
1600
1600
AILWAY EARNING POWER
Built in
Canada
MONTREAL LOCOMOTIVE
WORKS LIMITED
MONTREAL - QUEBEC

Low alloy, high strength steels





lower transportation costs...

Reduction of dead weight with proportionate increase in payload, but with no sacrifice of strength, is a highly profitable result of the use of Low Alloy High Strength steel in the transportation field. Some of the particular applications of this nickel-copper steel are railway rolling stock, coal bunkers, motor transport trailers and mine cars.

Low Alloy High Strength steel is readily formed and welded, and has excellent resistance to corrosion, shock and abrasion.
It is produced by The Steel Company of Canada, Limited, under the name "Stelcoloy", by Algoma Steel Corporation, Limited, as "50-70" Steel, and by Dominion Steel & Coal Corporation as "Doscoloy".

EMBLEM OF INCO SERVICE TRADE MARK

THE INTERNATIONAL NICKEL COMPANY OF CANADA, LIMIT

25 KING ST. W., TORONTO



PLASTIC INSULATED
PVC

A thermoplastic synthetic polyvinyl resin specially plasticized in various grades suitable for cable sheaths and certain types of insulation. This material is usually applied by means of extrusion molding thereby ensuring uniform insulation and sheath thickness.

Characteristics of PVC are as follows:—

Inert to most chemical reagents. Strongly resistant at normal temperatures to gasoline, oils, moderately strong acids, alkalis, salt water, etc.

Unaffected by ozone, sunlight, ultra-violet light.

Does not support fungus, mold growth, or flame.

Ideal for use in damp locations.

Electrical Data:—

Resistivity (15 deg. C) 10^{13} Ohm-cm^3.
Dielectric Strength 600 volts per mil.
Dielectric Constant 6 - 7.
Dielectric-Power-Factor 0.10 - 0.12.

Mechanical & Physical Data:—

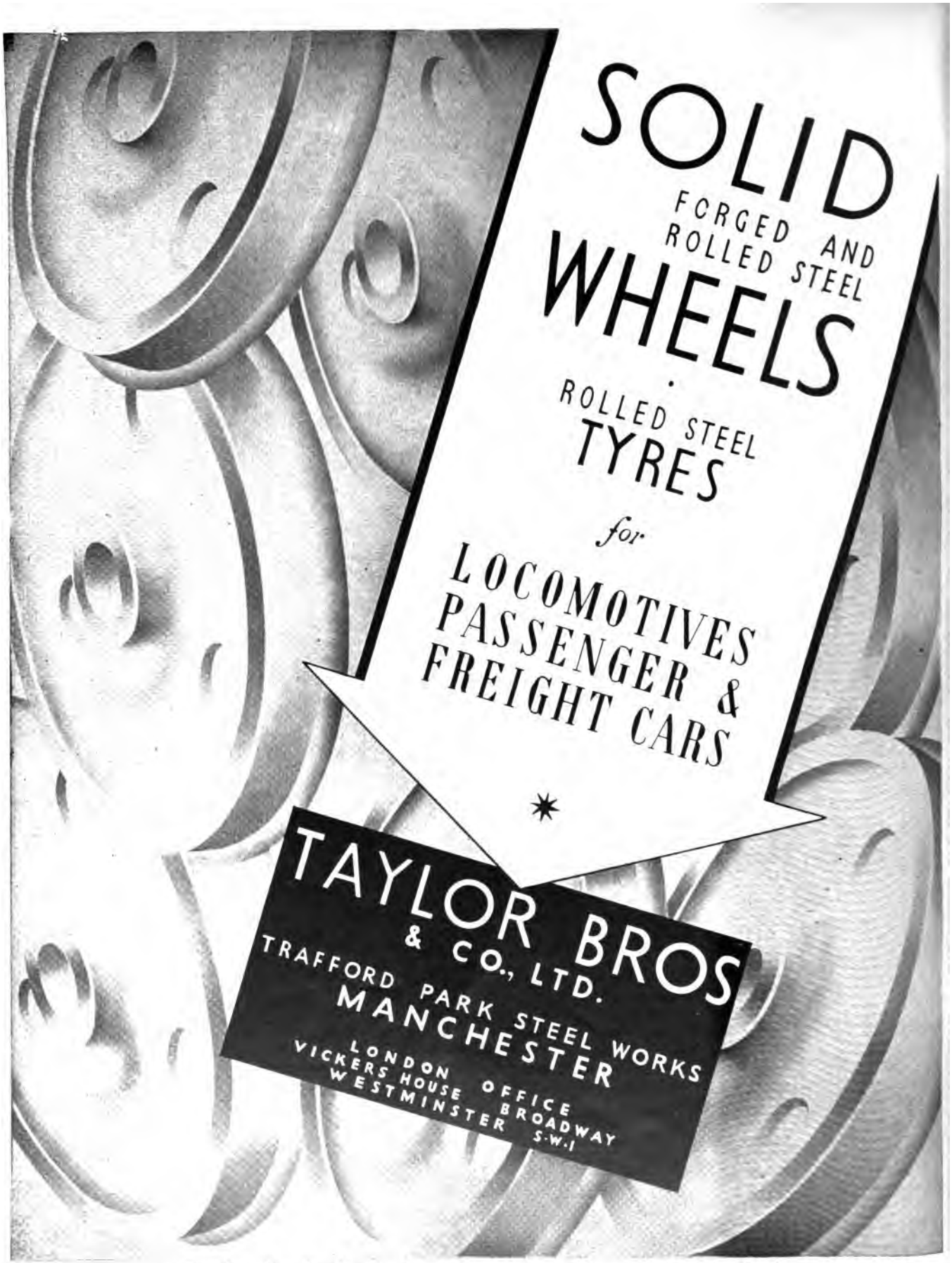
Tough and flexible, abrasion resistant and non-brittle at normal temperatures.

Available in a standard range of 8 bright, well defined colours—special shades available on request.

Softening point 80 to 100 deg. C (depending on compound used).

Low Temperature Crack Point—30 deg. C. (for good average needs).

CANADA WIRE AND CABLE COMPANY LIMITED



CANADIAN AGENTS

THE HOLDEN COMPANY LTD.

614 ST. JAMES ST. W. MONTREAL

TORONTO
128 SIMCOE ST.

WINNIPEG
150 PRINCESS ST.

VANCOUVER
854 DUNSMUIR ST.

MONCTON
46 KING ST.



WELDING NIPPLE



45° ELBOW



90° ELBOW



SLIP-ON WELDING FLANGE

STEEL
WELDING FITTINGS
Now Made in Canada

To Speed Deliveries to You...



CRANELAP FLANGE
WITH WELDING NIPPLE

THAT they might be immediately available for your service, these fittings are now being produced by Crane in Canada—both Standard and Extra Strong for use with corresponding types of pipe.

Crane Steel Butt-welding Fittings conform to the American standard for Steel Butt-welding Fittings.

They have a uniform circular section of full diameter, uniform center to end dimensions, and accurately beveled true round ends.

All are available in sizes 1-inch to 12-inch.

For complete information, see Crane 49 Catalogue literature or consult your Crane Branch.

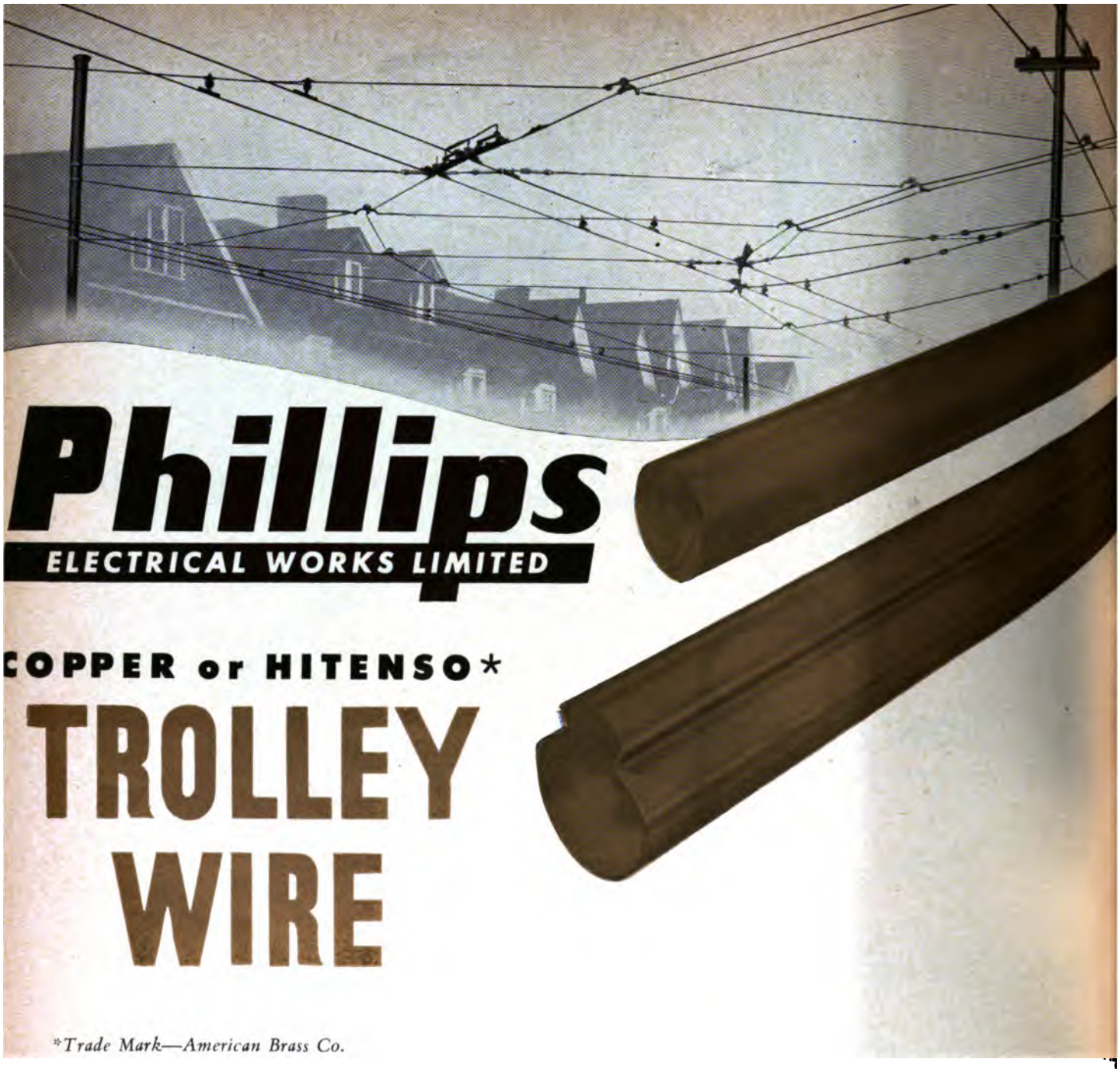
CRANE LIMITED: GENERAL OFFICE: 1170 BEAVER HALL SQUARE, MONTREAL • 18 BRANCHES IN 10 CANADIAN PROVINCES

1-9103

CRANE

VALVES • FITTINGS • PIPING
PLUMBING • HEATING

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS and PLUMBING AND HEATING CONTRACTORS

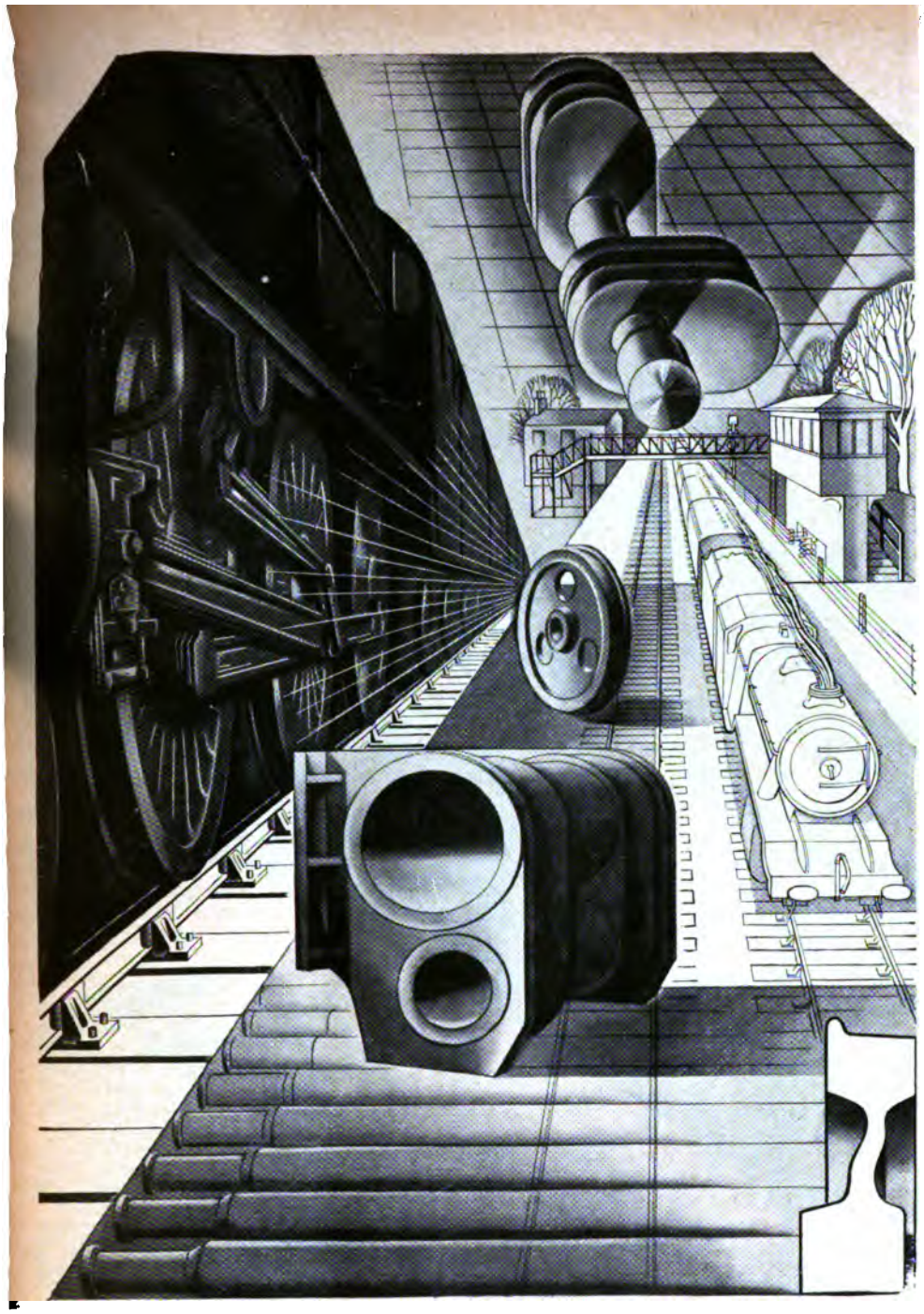


Phillips Copper and "Hitenso"* (Cadmium Copper) Trolley Wires are designed to meet your toughest service conditions. Copper Trolley Wire conforms to ASTM Specification B47. "Hitenso"* Trolley Wire conforms to ASTM Specification B9. Our Class C "Hitenso"* Trolley Wire to this specification has an excellent combination of high strength, high conductivity and resistance to wear. Consult our nearest branch office for full information.

General Distributors

AUTOMATIC ELECTRIC
(CANADA) LIMITED

Head Office: 284 King Street West, Toronto
Montreal - Ottawa - Brockville - Hamilton - Winnipeg - Regi



RAILWAY MATERIALS

From the various works of The United Steel Companies Ltd. a wide variety of railway materials is provided for both home and overseas requirements. The Steel, Peech & Tozer works specialises in tyres, discs, solid wheels ; in axles, straight and cranked, and in railway springs.

The Samuel Fox works produces high grade carbon and alloy steels ; the Appleby-Frodingham works steel sections and plates, including slabs for locomotive frames ; from the Workington Branch come rails and steel sleepers, and foundry and cylinder irons, completing a very wide range of railway products.

STEEL, PEECH (CANADA) LIMITED

2228 WALKLEY AVENUE - MONTREAL 28 - QUEBEC - *Telephone:* Walnut 8146

THE UNITED STEEL COMPANIES LTD

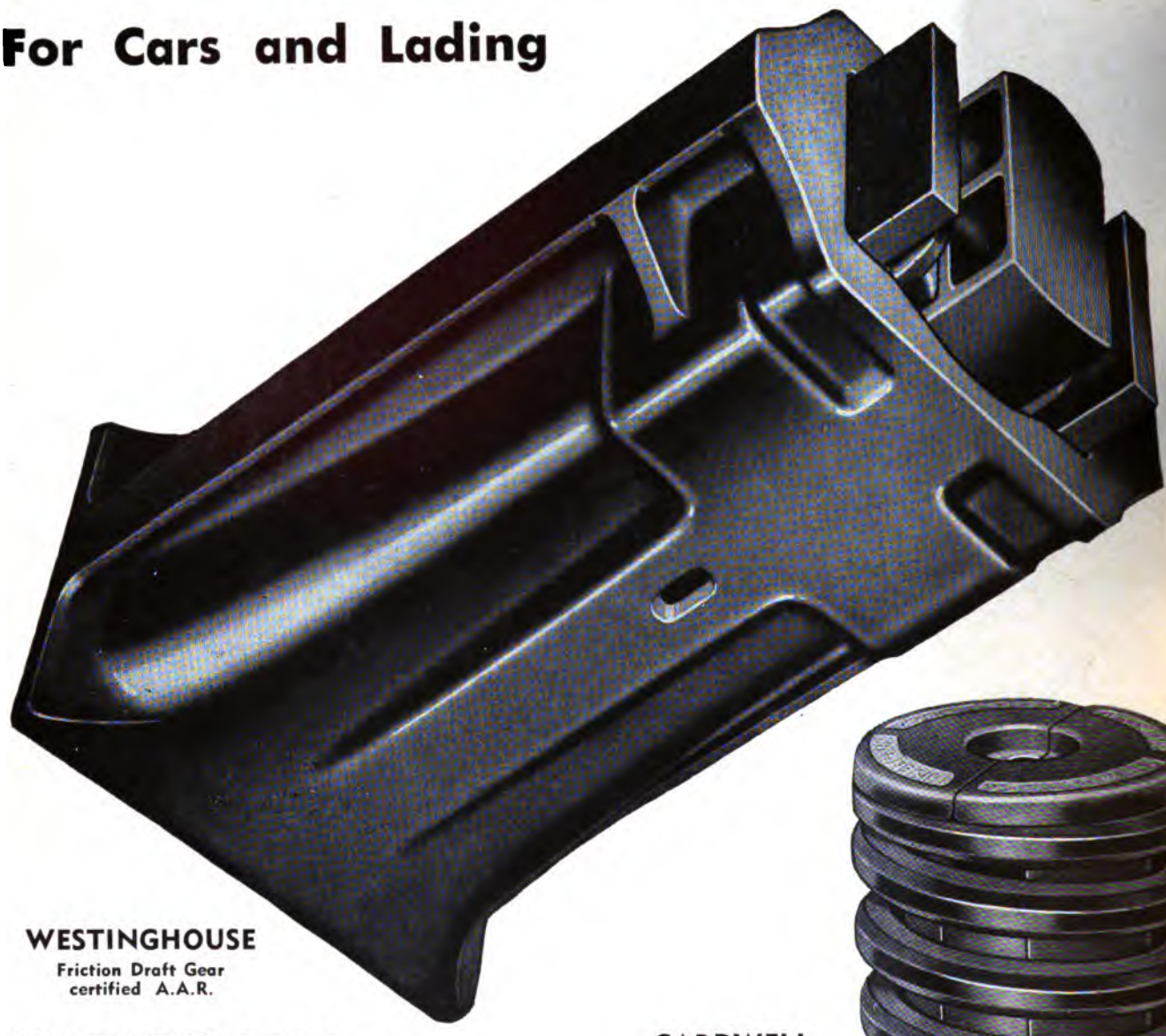
PARENT COMPANY

THE UNITED STEEL COMPANIES LIMITED OF SHEFFIELD, ENGLAND

The largest Steel producers in the British Commonwealth

MAXIMUM PROTECTION

For Cars and Lading



WESTINGHOUSE
Friction Draft Gear
certified A.A.R.



CARDWELL
Friction Bolster Spring
Type "A" for A.A.R.
and long Travel
Springs.

HORIZONTAL..
VERTICAL..
LATERAL..
FORCES ... are absorbed
by Westinghouse Friction Draft Gears and
Cardwell Friction Bolster Springs.

Over 98% of the cars in freight carrying service are A.A.R. Construction and over 96% have Friction Draft Gears.

Manufactured in Canada

2385RC

Cardwell Westinghouse Co., Chicago
Canadian Cardwell Co., Ltd., Montreal

ROYAL BANK BUILDING MONTREAL, QUEBEC



Flame-Cleaning

BEATS THE WEATHER



Do you know why your bridge paint gangs don't start work earlier in the spring and operate later in the fall? Have you ever stopped to count the lost hours because it was impossible, even in mid-summer, to paint damp surfaces? The answer to these problems is oxy-acetylene flame-cleaning.

Flame-cleaning makes it possible for your paint gangs to work on steel surfaces efficiently and economically even during the cold, damp days of early spring and late fall. And with flame-cleaning, your gangs put in a "full day" because they are not delayed by waiting for the sun to warm up and dry off surfaces.

BRIDGE AND MAINTENANCE ENGINEERS should write for Booklet F. which tells how the flame-cleaning of bridges will save money for your railroad.

CANADIAN RAILROAD SERVICE COMPANY LIMITED

350 Bay Street **Toronto 1, Ontario**

CRS

SHIPS THAT SAIL THE SEVEN SEAS — ARE BUILT AT DAVIE SHIPYARDS



Aerial view of Davie Shipbuilding and Repairing Company Limited, situated on the St. Lawrence at Lauzon, Que.



The 5500-ton cargo vessel "CROISSET". One of three ships completed for the French Government at Davie Shipyards in 1949. The other two vessels are "CANTELEU" and "CAUMONT".

MANY A SHIP, on her maiden voyage, has slipped away from the Davie Shipyards bearing the flag of a friendly nation. And ships from many countries have found safe harbour in this big centre—where everything from a minor repair job to a major operation can be performed, either afloat or in drydock.

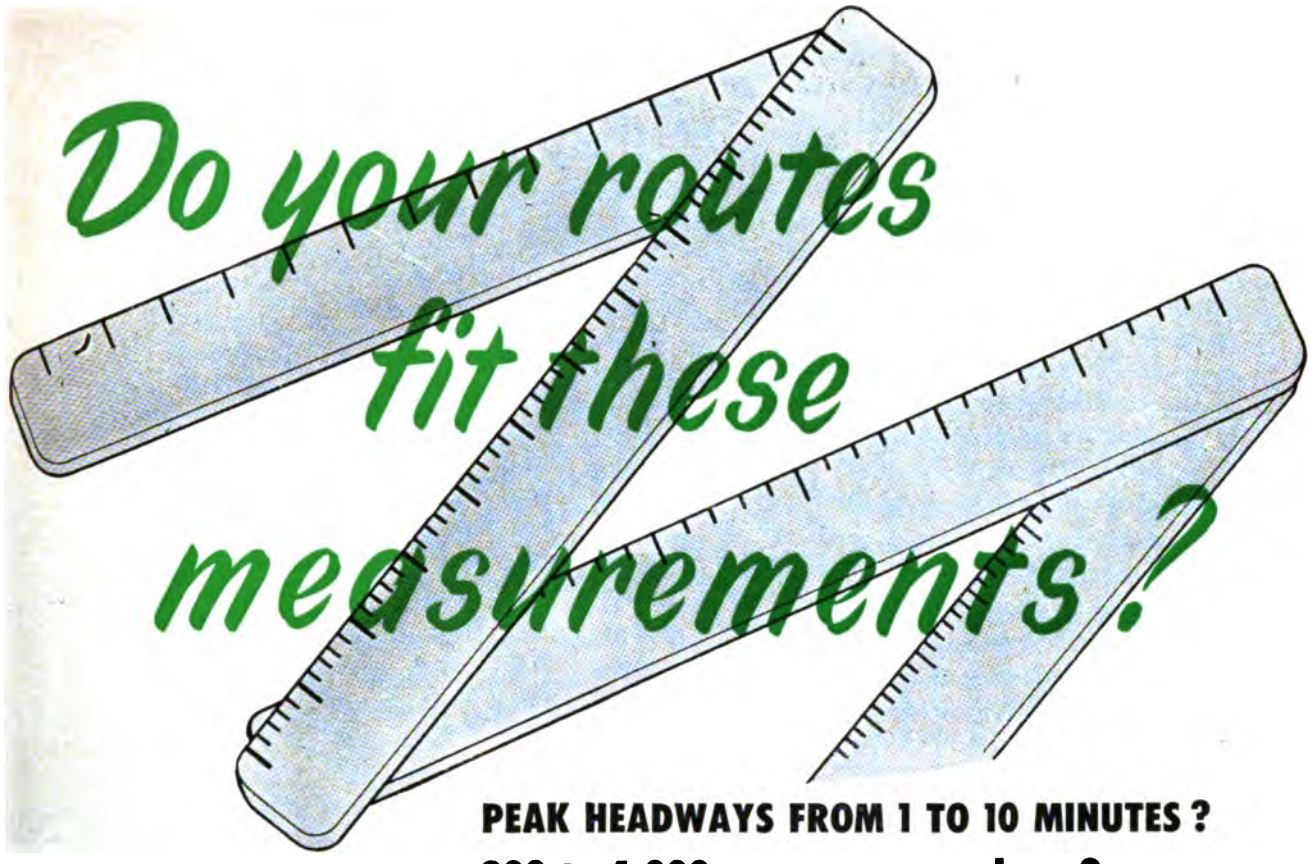
Cargo vessels, tugs, barges, fishing boats, oil tankers, luxury cruisers—and now a $5,000,000 steam icebreaker for the Canadian Department of Transport—are among the ships produced at Lauzon for Canadian and foreign peacetime trade. During the war, a mighty fleet of warships was launched from this century-old shipyard.

One of five major shipbuilding and repair centres controlled by Canada Steamship Lines, Davie is known to every ship that sails the St. Lawrence—from home or abroad.

All enquiries promptly acknowledged and information supplied on request.



DAVIE SHIPBUILDING AND REPAIRING COMPANY LIMITED
LAUZON, P.Q., CANADA
Shipbuilding subsidiary of
CANADA STEAMSHIP LINES LIMITED
759 VICTORIA SQUARE, MONTREAL P.Q.



PEAK HEADWAYS FROM 1 TO 10 MINUTES?
300 to 4,000 passengers per hour?
1 TO 20 MILLION ANNUAL SEAT MILES PER ROUTE MILE?

. . . if the answer is "Yes" . . .

You can profit with Trolley Coaches!

GENERAL ELECTRIC
TROLLEY COACH
Propulsion Equipment

Transit authorities in every Canadian city operating trolley coaches are enthusiastic about them. Vancouver, Calgary, Edmonton, Saskatoon, Regina, Winnipeg, Fort William, Port Arthur, Kitchener, Toronto, Cornwall, Montreal and Halifax are all trolley coach boosters. The city of Hamilton will soon have some of these modern vehicles in service. Investigate trolley coaches before you modernize your transit system.

CANADIAN GENERAL ELECTRIC COMPANY
LIMITED
Head Office: Toronto — Sales Offices **from Coast to Coast**

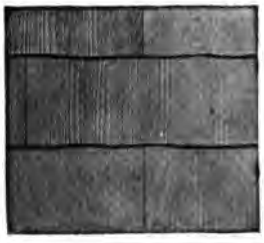
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Johns-Manville

Headquarters for building materials

J-M CEDARGRAIN SIDING SHINGLES

Now available in 5 beautiful colours



Attractive new colours make these popular asbestos-cement siding shingles more in demand than ever before. Cedargrains have a charm and beauty all their own. They won't burn, rot or deteriorate—never need paint to preserve them. Ideal for new construction and remodelling.



J-M DURABESTOS* ROOF SHINGLES

assure a colourful, fireproof roof for homes in any price range. These asbestos-cement shingles are made on the strip principle so they can be quickly and easily applied.



J-M ASPHALT SHINGLES

provide economical, weatherproof roofs in a variety of colours and styles. They are made to J-M's rigid standards of quality. The line also includes Flexstone Asphalt Shingles, made on a fireproof asbestos base.

J-M ASBESTOS FLEXBOARD*

The modern building board with unlimited uses. It is fireproof, rot-proof, easy to nail and easy to saw. Can be used inside or out for new building or remodelling. Comes in large 8′ x 4′ sheets that are easy to handle.





J-M CORRUGATED TRANSITE*

comes in large, strong, fireproof sheets. Long recognized as an ideal material for roofs and sidewalls of industrial buildings, Corrugated Transite is now being widely used for modern store fronts and decorative interiors.

J-M ROCK WOOL INSULATION

Pioneers in the development of Rock Wool Johns-Manville now offers a new, improved insulation — Long-fibre Super-Felt Rock Wool. This latest development provides finer insulating efficiency and an easier-to-handle Batt.



J-M ASBESTOS BUILT-UP ROOFING

is backed by J-M's 90 years' experience in the roofing business. Johns-Manville offers a complete line of Built-Up roofings for both flat and sloping decks. For the utmost in roof protection, specify J-M Asbestos roofing.



• In addition to the materials illustrated here, Johns-Manville manufactures a wide range of products from the "magic mineral" — Asbestos. Such as Terraflex Floor Tile, Roll Roofings, Transite Pipe (for pressure lines, sewage disposal and house connection purposes) and a complete line of Roof Coatings and Putties. Johns-Manville also makes Asphalt Tile Flooring, Insulating Board and Acoustical Materials. Descriptive literature giving full details on these materials is available on request. For complete information write Canadian Johns-Manville, 199 Bay St., Toronto 1, Ont.

B-100

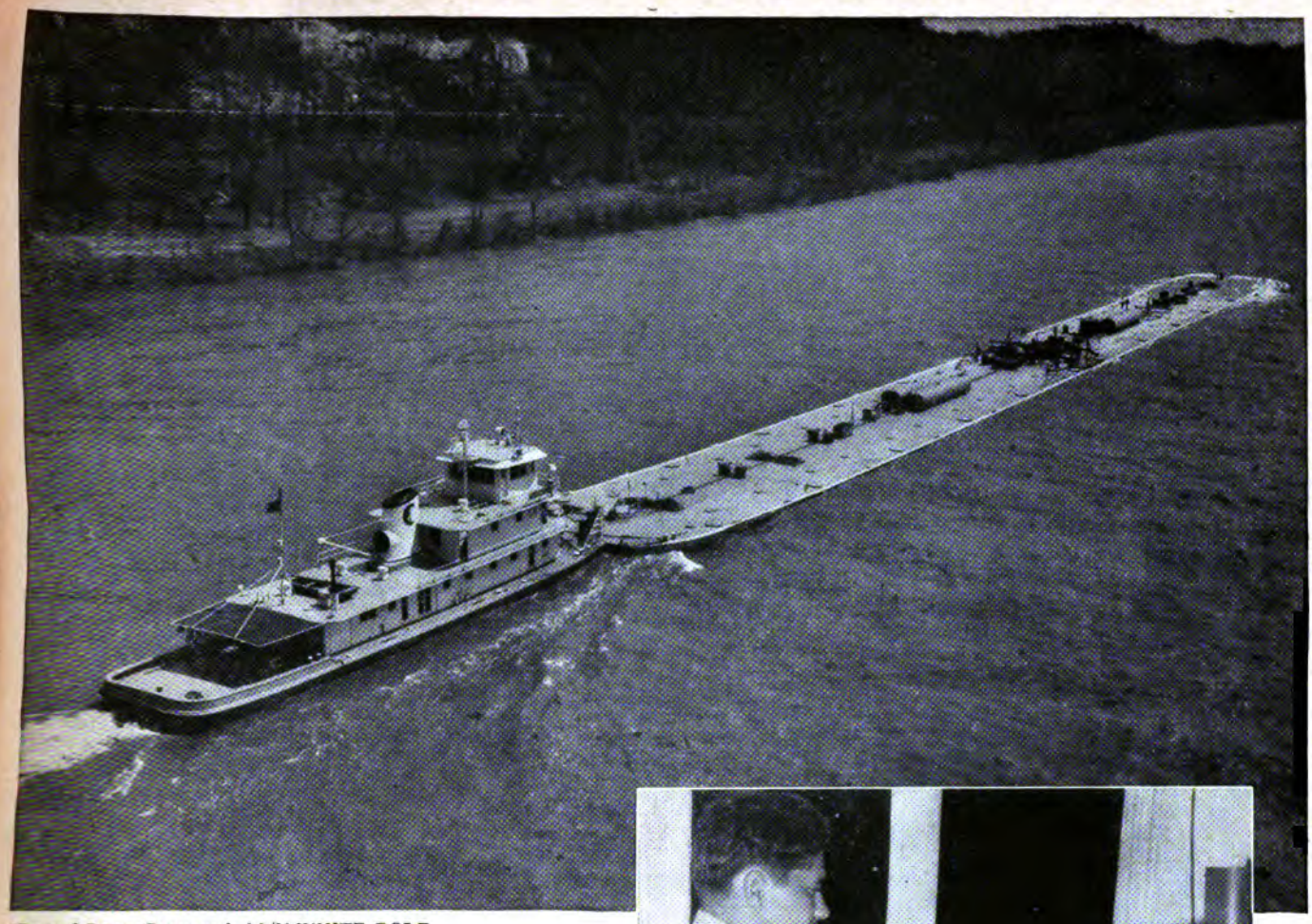
*TRADE MARK REG.

Johns-Manville

THE *Quality* NAME IN

BUILDING MATERIALS

JOHNS-MANVILLE JM PRODUCTS



Canal Barge Company's M/V WHITE GOLD

Sperry Radar . . . "pays for itself,"

Says Barge Line Official



Capt. D. H. Clark of the M/V White Gold operates Sperry Radar

Sperry Radar will "pay for itself" in any single fog season, says Harry B. Jordan, Vice President of the Canal Barge Company, of New Orleans, by permitting operation "when otherwise tows would be tied to the bank... buoys and approaching tows can be seen with clarity."

► "Equally as helpful in aiding night navigation in narrow channels and swift currents, Sperry Radar has materially reduced the number of accidents in our night operation on the inland waterways," Mr. Jordan adds. "Wheel damage has been lessened due to the radar's quick spotting of heavy drift masses... making it a simple matter to cut off the engines while passing over the drift."

► Canal Barge Company vessels have gained in operating efficiency, both at night and in fog, since the installation of Sperry Radar on its boats. This operating efficiency reflects the experience of Sperry-equipped craft operating on rivers, inland waterways and open seas all over the world. On the crowded waterways, Sperry Radar clearly shows shorelines, boats tied to the bank, bridges, powerlines, locks, docks and buoys . . . truly a river pilot's "friend."

► Supplementing all Sperry equipment is Sperry Service – service that pays off in better performance, greater economy. Our Marine Department will be glad to give complete details.

SPERRY GYROSCOPE COMPANY

DIVISION OF THE SPERRY CORPORATION, GREAT NECK, NEW YORK • CLEVELAND • NEW ORLEANS • NEW YORK • LOS ANGELES • SAN FRANCISCO • SEATTLE

THE ONTARIO HUGHES OWENS CO., LIMITED, OTTAWA—AGENTS IN CANADA FOR SPERRY MARINE AND AERONAUTICAL EQUIPMENT

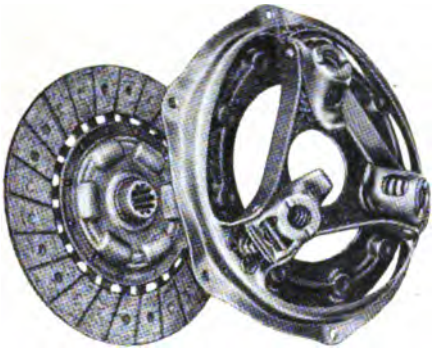
Naturally Alert

naturally creative, naturally progressive, these are Spicer talents that have made Auburn and Brown-Lipe Clutches so outstanding

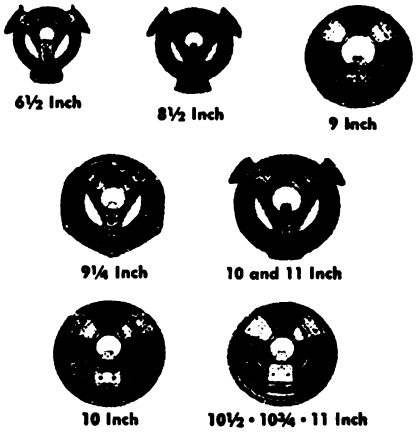
Spicer has been a "natural" in the automotive industry since 1904. From the very first days of the automobile, Spicer has orginated, developed and improved power transmission equipment of major importance. Typical of Spicer advancements in the automobile, truck, bus and tractor fields are the Auburn and Brown-Lipe Clutches, performance-proved in many millions of installations.



There is an AUBURN CLUTCH for every Passenger Car, Truck, Bus and Wheel Tractor Need



Auburn Clutch pressure springs run cool—retain their full functional action for a long time—because they are mounted on the cover instead of the pressure plate.



Auburn Clutches have been approved and accepted as original equipment since 1937. They are manufactured in a new, modern plant, fully staffed and equipped with the most modern tools and systems for an annual capacity of over a million complete clutch assemblies. Major features include:

25% Less Weight 30% Fewer Parts
Runs Cooler
Longer Spring Life
Torsional Vibration Damper
Patented Flexible Center
Patented Cushion Eliminates Chatter
New Positive Pull-Back
Complete Range of Sizes

The BROWN-LIPE CLUTCH offers Outstanding Performance for Heavy-Duty Trucks and Buses

Operators experienced with Brown-Lipe Clutches readily accept the small initial higher cost in exchange for the exceptional performance and long life of these units . . . Features include:

UNIFORM OVERALL PRESSURE. Through 360° of pressure plate.
SIMPLE SCREW THREAD ADJUSTMENT. Permits quick, easy adjustment.
LONGER BEARING LIFE. Completely shielded release bearing.
NON-WARPING PRESSURE PLATE. Made of heat treated alloy.
SMOOTH. Flexibility of levers results in smooth pick-up.
NO CHATTER. Assures longer life.
LOW PEDAL PRESSURE. Remains essentially constant throughout clutch life.
FEWER PARTS. Greater efficiency with less upkeep.
INSULATED SPINGS. Not in contact with pressure plate; heat from plate cannot destroy their temper.
ECONOMICAL. Delivered completely engineered, not necessary to design or purchase special transmission front bearing caps, clutch release bearing or housings.



46 YEARS OF Spicer SERVICE

SPICER MANUFACTURING *Division of Dana Corporation,* **TOLEDO 1, OHIO**
PASSENGER CAR AXLES • CLUTCHES • TORQUE CONVERTERS • PARISH FRAMES
TRANSMISSIONS • SPICER "BROWN-LIPE" GEAR BOXES • PROPELLER SHAFTS
UNIVERSAL JOINTS • FORGINGS • STAMPINGS • RAILWAY GENERATOR DRIVES



Fly CANADIAN PACIFIC across the Pacific

TOKYO and HONG KONG

The Short Northern Route

Canadian Pacific style all the way. SPEED — in a pressurized Canadian-built aircraft. CONVENIENCE — the shortest, fastest route to the Orient.

NEW ZEALAND and AUSTRALIA

via HAWAII — CANTON ISLAND — FIJI

The Colourful Southern Route

It's "Speed without Fatigue". COMFORT — in a pressurized "Empress of the Air" all the way, with deep 'Loungaire' chairs. RELAXATION—fly by day, sleep on land at night at glamorous, colorful Honolulu and beautiful Fiji at no extra cost.

Information and reservations from any Canadian Pacific office or your own Travel Agent.

Canadian Pacific AIRLINES

ATLAS PARAMOUNT PACKINGS





The distinctive design of these packings insures a completely automatic packing.

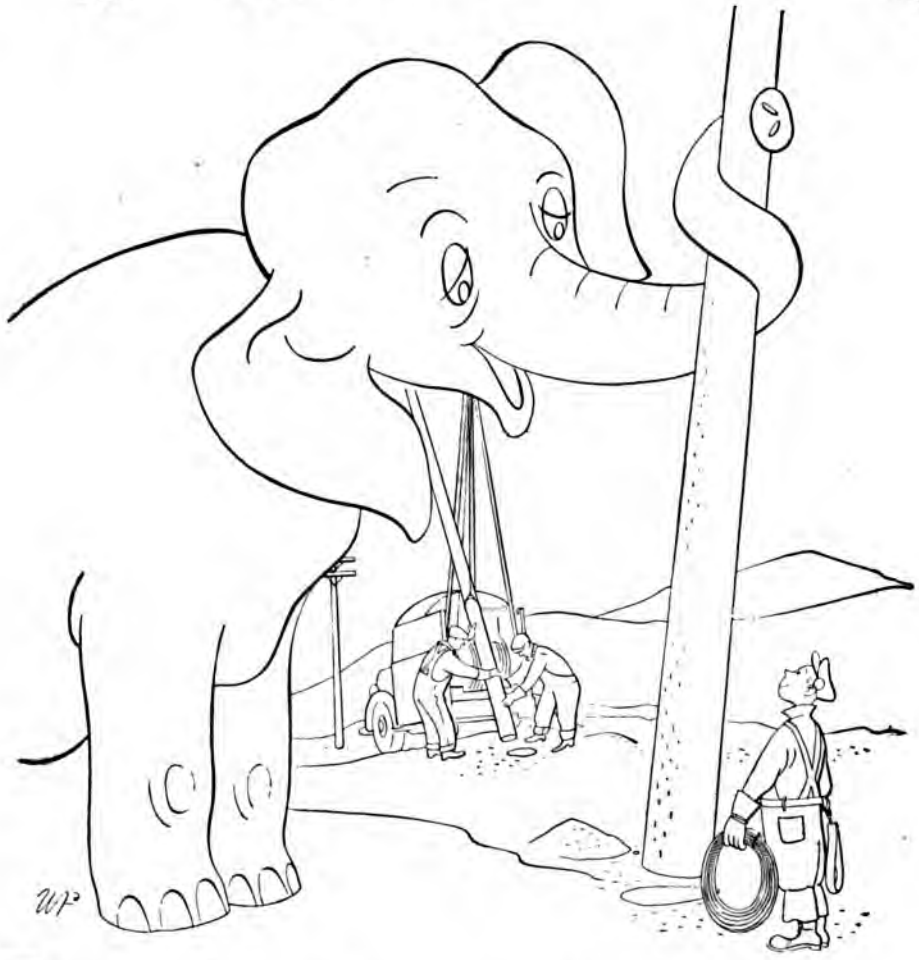
Manufactured from six compositions, each for a specific service.

Furnished in ring form only, in all rod and stuffing box sizes.

CALL "ATLAS" FOR ALL
YOUR PACKING REQUIREMENTS.

ATLAS ASBESTOS
COMPANY LIMITED
A Member of the Turner & Newall Organization — Complete Asbestos Service
MONTREAL TORONTO WINNIPEG VANCOUVER

IT'S REMARKABLE



The amount of POLE LINE CONSTRUCTION EQUIPMENT required in each of our twenty-six warehouses to meet the daily needs of the Power and Communication Industry across Canada is indeed remarkable. Based on more than fifty years of experience the stocks in Northern Electric warehouses are designed to meet the day by day requirements of Power and Communication utilities. Northern Electric offers more than the actual material. Our service and technical knowledge keeps pace with, and is an essential part of the industry.

Northern Electric

COMPANY LIMITED

HALIFAX MONCTON QUEBEC CHICOUTIMI THREE RIVERS SHERBROOKE MONTREAL OTTAWA VAL D'OR
KINGSTON TORONTO HAMILTON LONDON WINDSOR KIRKLAND LAKE TIMMINS SUDBURY
FORT WILLIAM WINNIPEG REGINA LETHBRIDGE CALGARY EDMONTON VERNON VANCOUVER VICTORIA

Trolley Coach LINES GROW FAST IN *Boston*



ROUND TRIP MILES INCREASE 133% IN TWO YEARS

Everywhere there's evidence of a definite swing toward the trolley coach in Boston and the 13 surrounding cities and towns served by the Metropolitan Transit Authority. On the MTA system map a black triangle indicates a trolley coach line. In the past two years triangles have been popping out like freckles when the summer sun hits the nose of a small boy.

During one 60-day period, trolley coaches went into service on eight MTA lines. From early December, 1948, to September, 1950, the round trip miles of trolley coach route will have more than doubled, increasing 133% from 65.64 to 153.53.

Among reasons for the rapid increase is the public's often repeated preference for this quiet, electric vehicle. Also, maintenance costs are low. And the 1949 record shows that trolley coaches cost less to operate than other vehicles in the system.

Yes, the trolley coach lines grow fast in Boston. They grow because trolley coaches have proved that they give good service at low cost.

4008-T



TROLLEY COACH AND STREETCAR LINE MATERIAL AND CAR EQUIPMENT

Canadian Ohio Brass COMPANY, LTD.
Niagara Falls, Canada

G. M. diesel locomotives are completely engineered, built and serviced by one organization



FP-7—A 1500 H.P. streamlined locomotive for freight or passenger service. Coupled with one or more booster units, it provides unmatched flexibility in heavy duty passenger operation.



F-7—A 1500 H.P. road freight locomotive engineered for maximum efficiency in heavy duty freight or passenger service. Available in both lead and booster units to provide up to 6000 H.P.



GP-7—A 1500 H.P. general purpose locomotive that can switch the yard and get out on the branch or main line to haul freight, passengers, or both. Can combine with other units for multiple operation.



1200 H.P.—A 125-ton heavy duty switcher which can handle toughest assignments of heavy classification yards, terminal, transfer service, or hump yards. Adaptable to many freight applications.



GENERAL MOTORS LOCOMOTIVES

800 and 600 H.P. switchers designed for rugged tasks in railway and industrial yards. Generators, traction motors, blowers and electrical equipment are fully interchangeable with other models. Both give maximum visibility.



GENERAL MOTORS DIESEL LIMITED

RAL OFFICES AND PLANT, LONDON, ONTARIO. *Sales Headquarters:* INTERNATIONAL AVIATION BLDG., MONTREAL, QUEBEC

GENERAL MOTORS LOCOMOTIVES

are constructed from one hundred per cent General Motors design and are built under a SINGLE responsibility. All major components of the locomotive are serviced completely by ONE organization.

Canada's Outstanding

PREVOST COACH

CUSTOM BUILT
BY MASTER CRAFTSMEN



INTERURBAN — 41-PASSENGER

PROGRESSIVE IN DESIGN
RELIABLE IN WORKMANSHIP
EFFICIENT IN PERFORMANCE
VIEING IN PRICE, QUALITY AND SERVICE
OUTSTANDING APPEARANCE
STURDILY BUILT, COMFORTABLE TO RIDE
THOROUGH CRAFTSMANSHIP
CANADIAN
OPERATORS
ACCLAIM OUR
CANADIAN COACH for
HIGHWAY COMFORT

REPRESENTATIVES IN ALL PARTS OF THE COUNTRY

Newfoundland Division — Winsor and Company, 400 Water Street, St. John's, Nfld.

New Brunswick, Nova Scotia and P.E.I. Division — ERNEST ROY, 9 Currie St., Sunny Brae, N.B.

Ontario and Manitoba Division — W. V. GIFFEN, 28 James St. South, Hamilton, Ont.

Sask. Alberta and B.C. Division — CECIL BRADSHAW, 11727 Jasper Ave., Edmonton, Alta.

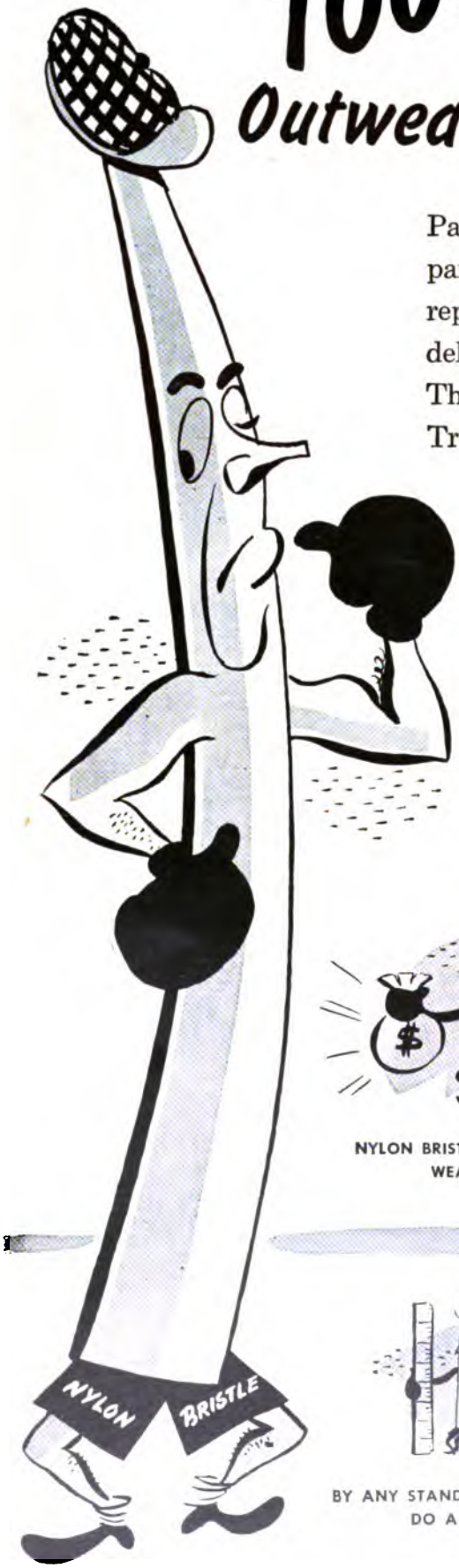
PREVOST COACH COMPANY

MANUFACTURERS

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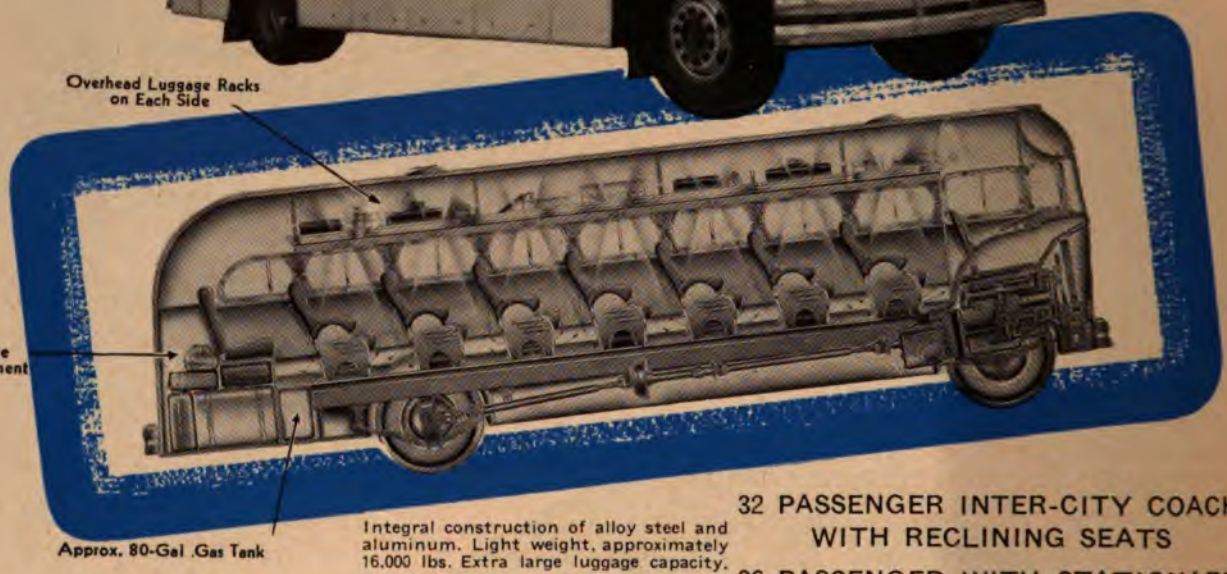
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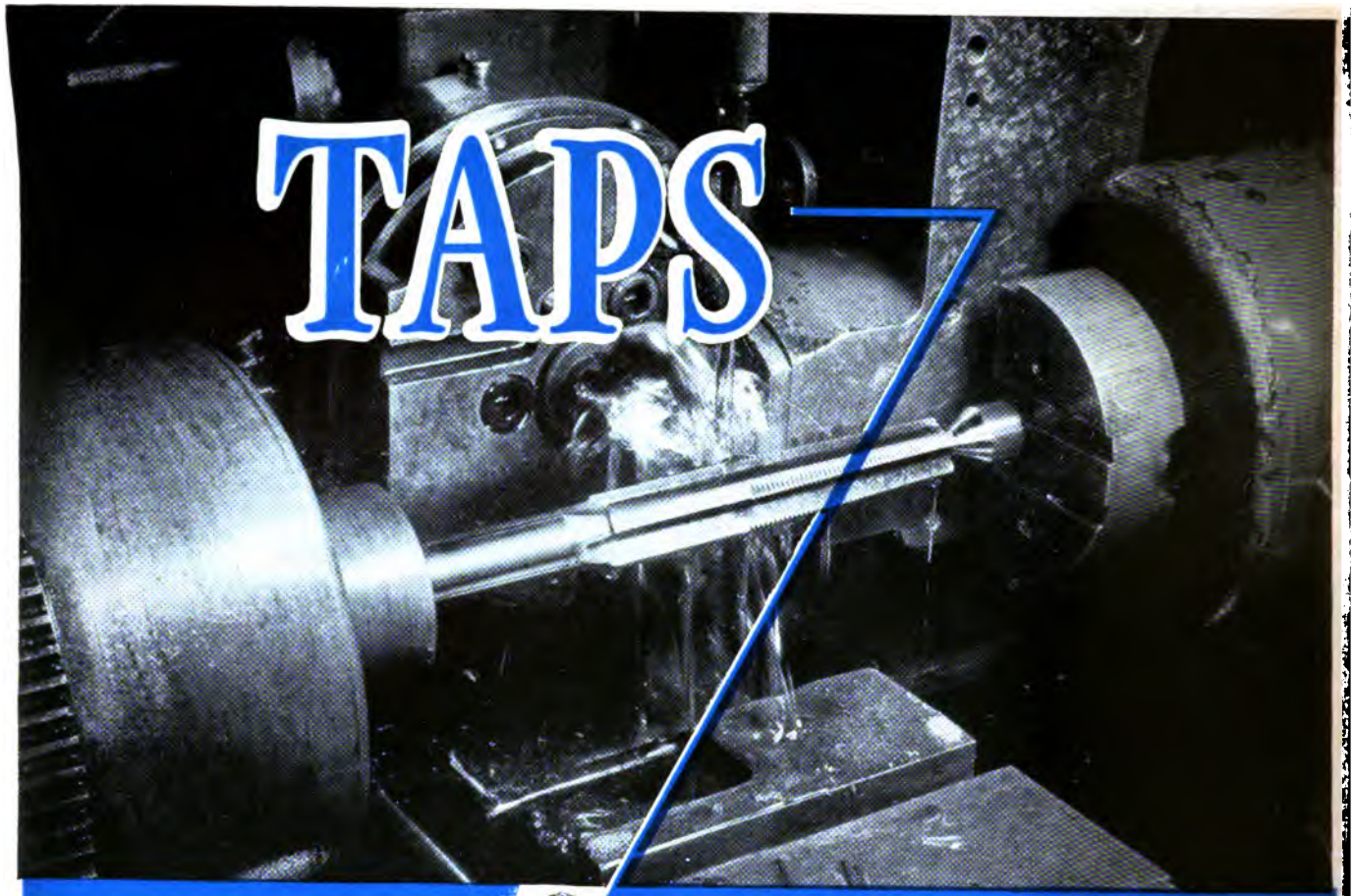
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Canadian Transportation

General Motors Diesel, Ltd., Plant Opened

With appropriate ceremony, the large new plant of General Motors Diesel, Ltd., near London, Ont., for the building of Diesel-electric locomotives, was opened on August 11, construction and tooling of the plant having been completed on schedule in the record time of 310 days.

The plans of General Motors Corp. for the construction of a plant near London, Ont., in which to build Diesel-electric locomotives for Canadian railways, were set forth in detail some months ago in these columns, where it was recorded that a Canadian company with the name of General Motors Diesel, Ltd., to operate the new plant and market Diesel-electric locomotives in Canada, had been formed, with E. V. Rippingille, Jr., formerly of the parent plant at La Grange, Ill., as President and General Manager. These plans came to complete fruition on August 11, when the new plant was formally opened. The new Canadian company did not wait for completion of its new plant to begin the actual construction of locomotives; as each bay of the new plant was completed, work on the first locomotives was carried on, and when the plant was opened on August 11, it was the expectation that deliveries of new locomotives would begin before the end of the month. Locomotives of several types are to be built in the new plant, with units ranging from 600 to 1,500 h.p. There will be a series of yard switching locomotives ranging from 600 to 1,200 h.p.; the FP-7 unit, a 1,500 h.p. streamliner for the hauling of either heavy freight or fast passenger trains in main line service; the F-7, a 1,500 h.p. road freight unit, and the GP-7, a 1,500 h.p. general purpose road switching locomotive designed to be equally effective in yard or main line work. First deliveries are the 1,500 h.p. heavy freight units and the 1,500 h.p. general purpose road switching locomotives.

Description of New Plant

The General Motors Diesel, Ltd., plant is located on the south side of the extension of Oxford Street, about six miles from the heart of London, east and to the north of the city. It is between the main lines of the Canadian National and the Canadian Pacific, to which it is connected by spurs. The C.P.R. main line is one-half mile distant and the C.N.R. main line one-quarter mile distant. The plant is a short distance west of the Crumlin sideroad, leading to the nearby airport. The site has area of 210 acres, and the buildings, with plant area of 198,276 sq. ft., cover roughly five acres. The buildings comprise main shop, boiler house and general offices.



E. V. Rippingille, Jr., President and General Manager, General Motors Diesel, Ltd.

The main shop building is 528 ft. long by 370 ft. wide, and the office building, two stories high, is at the north end of the main shop building, and connected therewith. The power house is an entirely separate structure, 70 x 80 ft. and 48 ft. high. The water tower is close to the power house, and uses water pumped from city mains. It has capacity of 100,000 gall., of which 25,000 gall, is required for production, with 75,000 gall. in reserve for fire protection. The power house is of concrete block and asbestos sheeting construction.

The main shop walls are of asbestos siding, and the shop and office roofing of metal corrugated deck with bonded felt pitch and gravel covering. The outside walls of the office



A Bird's Eye View of the General Motors Diesel, Ltd., Plant near London, Ont.

portion of the main structure are of concrete block and faced brick, while the inside walls of the offices are plastered. The main shop floor is of creosoted wood blocks, laid over a seven-inch concrete foundation coated with tar. Mercury vapor and incandescent lights are installed in the plant, with fluorescent fixtures in the office space. The offices have ceilings of acoustic tile. A surfaced parking area adjacent to the plant provides accommodation for 250 automobiles.

The plant is well supplied with railway trackage, three through tracks extending the length of the shop from north to south, and making connection with the spurs to the C.P.R. and C.N.R. main lines. Entering the main shop from the north, the laboratory is in the northeast corner, with the general parts department adjoining, and the tool room, small tools storage and tool crib and stores adjoining to the south.

Next to the south, along the east side of the shop, is the machine assembly space, and then the truck assembly space, and still further south, the space for conduit cable and electrical sub-assembly, the pipe shop, and mechanical sub-assembly. Next to the south is the space for freight locomotive nose assembly and equipment, the blacksmith shop, the paint booth, and the template shop. Adjoining the south end is space for steel cutting and fabricating, light sub-assembly work, and at the extreme south end, the heavy sub-assembly space. At the south side of the shop from south to north, are the spaces for the roofing, side frame, and car body assembly, the underframe assembly, and the locomotive final assembly, with railway trackage passing through.

Ground for the new plant was first broken September 22, 1949, and steel erection began December 1, 1949. With the plant operating at full capacity and producing one Diesel-electric locomotive per day, employment for 1,000 people will be afforded. The traverse map in connection with the undertaking was prepared by S. W. Archibald, surveyor.



Entrance to General Motors Diesel, Ltd., Office and Plant.

Plant Has Many Features

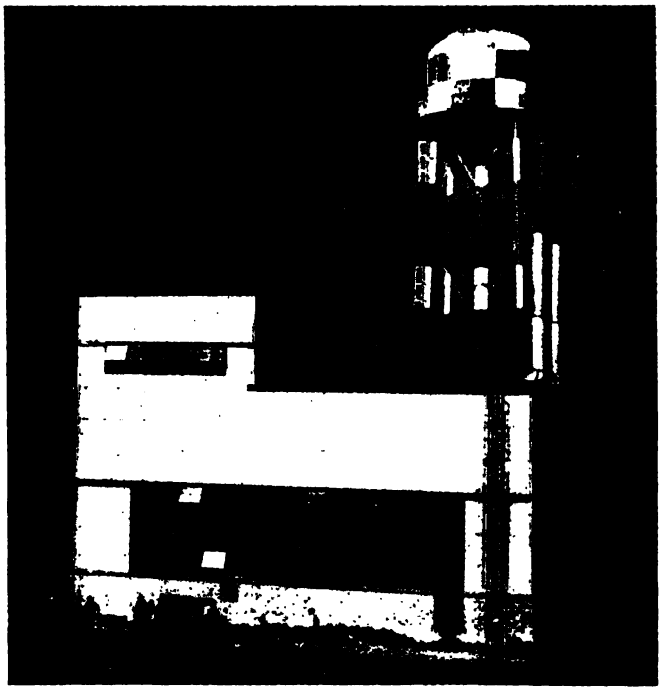
From the receipt of raw materials at the plant to the departure of the completed locomotives, operations are geared to safety, economy of space, and the elimination of heavy manual tasks. The steel received from Canadian mills, for the body assembly work, is carefully stacked in convenient locations. In the well-equipped tool room, expert toolmakers make the jigs, fixtures and dies necessary for the conversion of the raw material into finished parts. In the machine shop, skilled machinists finish forgings and castings to exacting dimensions. The jigs and dies required for the many individual jobs are designed by members of the company's staff. The work laid out by the design engineers is routed through the various manufacturing processes by the process engineers. Along with the high capacity presses and shears in the plant is an electronic eye flame cutter, said to be one of only two machines of its kind in Canada, and capable of cutting a clean pattern from steel up to 14 inches thick by tracing automatically from a line drawing. An example of the stamping and welding work carried on is furnished by the streamlined cab nose of the road locomotives, which is made from four stamped out pieces of metal which are welded securely. Throughout the plant, the work of the welders is eased by jigs and positioners which provide for downhand welding on all jobs. A stress-relieving oven, heated by gas, removes from sub-assemblies any stresses built up in welding. This oven can accommodate large locomotive frame sections weighing several tons. Another feature of the plant is the shot-blasting room, in which welded sections and metal castings are cleaned of scale and rust. The abrasive shot used falls through a grid to a hopper, from which it is recovered to be used over again. Modern material handling equipment is provided to eliminate back-breaking effort and also to economize on space. To promote convenience and efficiency, materials required are stored in the section of the plant nearest to the site of their use. Wheels and axles are stored near the truck assembly area. The production parts for all sub-assemblies are kept in warehouse bins, and key numbers on the bins furnish prompt information on the location of any part. The plant is fully served by cranes, and an accompanying illustration shows a Diesel-electric locomotive, nearing completion and weighing almost 125 tons, which is hoisted and moved easily by one of the large cranes installed for the purpose. One of the most interesting pieces of equipment in the plant is the drying oven, which has 720 infrared ray bulbs, to dry the paint from the inside out. For permanent efficiency, 14 carat gold-plated reflectors are employed. In carrying out paint jobs on the locomotives, the paint is sprayed on in mobile booths, following which the locomotive is moved under the enveloping hood of the drying oven. Outside, a large parking lot is provided for the automobiles of employees. A large drafting room is provided, for the making of drawings of the individual parts of the locomotives, such parts numbering in the thousands. Safety is preached and practised at the plant, and the safety stores carry more than 150 different items designed to prevent accidents. Safety lectures are part of the induction training of new employees and a continuing feature of plant activities. Safety glasses, which employees are required to wear, are provided free of charge, and safety shoes with steel toe caps are supplied employees at cost. Toilet facilities are very adequate, and wash basins of generous size allow for multiple use, the water supply being controlled by foot pedal. Large individual lockers for employees are provided, with the locker rooms accessible from office and plant. The plant cafeteria, in which



The Drafting Room at the General Motors Diesel, Ltd., Plant

A Diesel-electric locomotive is first built on paper, and individual drawings of each part are required. For a model FP-7 locomotive, some 10,000 individual drawings are required.

good food is served at low cost, seats 250 persons, and clean and modern kitchen facilities are provided. The parts service for the shop is complete in every detail, and any of some 10,000 repair parts are available at a moment's notice. The company's parts policy, combined with a wide interchangeability of parts among the various locomotive models, means lower inventories for the railway customers of the company, and low cost service on genuine parts. The packaging of parts for shipment guards against rust, dirt, rough handling, corrosion and loss of identification. In the offices, modern aids to accounting are provided.



The Power Plant and Water Tower

The Plan for Canadian Manufacture

The proposal behind the erection of the General Motors Diesel, Ltd., plant near London was " . . . to erect a manufacturing building to be equipped for the fabrication of locomotive parts and the assembly and testing of complete locomotives . . . Facilities for a parts warehouse, service repair, and paint and test to be included . . . Provisions to be made for a boiler house and office building . . . Initial production to be figured at the rate of ½ unit per day, with ultimate capacity of one unit per day."

The idea of establishing a Canadian plant for the manufacture of Diesel electric locomotives had been taking shape over a period of years. Canada's duty on American-made locomotives ranged from 10½ to 25 per cent, depending on type. Production of these in Canada could lighten the tariff burden and sales to Canadian and Commonwealth customers encouraged.

The first plan to be considered was to affiliate with some existing Canadian company. A survey, however, convinced General Motors that only by building their own plant could they take advantage of the unique mass-production techniques developed at G.M.'s Electro-Motive plant at LaGrange, Ill. These techniques were so tradition-breaking that they could hardly be fitted into a conventional plant. When had anyone in the history of manufacture, put together a 125-ton locomotive on the assembly-line principle employed in automobile making?

In November, 1948, G. M. management assigned J. W. Brophy, assistant director of production control and purchasing at LaGrange, the task of finding out what would be required to set up a Canadian manufacturing operation.

This job consisted of breaking the locomotive down into its many thousands of parts and recommending what should be bought and manufactured in Canada and what should be shipped there from the United States. During the study stage, the project received invaluable assistance from W. A. Wecker, president and general manager of General Motors of Canada, and A. E. McGilvray, assistant to the president, who counselled on Canadian sources of parts and materials, and later aided in the approaches of the embryo company to the Canadian Government.

Brophy's report was ready in January, 1949. By this time, Detroit's interest in the project was strong, and it became known as "Project X." Early in February, C. E. Wilson, president of the Corporation, gave his unofficial approval, from which stemmed the full proposal for a Canadian plant.

Prior to selection of a suitable site for the plant, the company sought the approval of the Rt. Hon. C. D. Howe, Minister of Trade and Commerce. As a result of this presentation, approval was obtained from the Government as well as necessary corporate papers. General Motors was clear to manufacture Diesel locomotives in Canada.

Meanwhile the search for a suitable site was going on. London was finally selected as it appeared to provide an ideal combination of advantages. The city wasn't over-large, nor was it so small that it would depend on the plant too greatly for its well-being. A homelike residential city of over



Left, a Locomotive Truck in Upside Down Position on the Assembly Line. Right, Shears, Exerting Maximum Pressure of 175 Tons, in Action

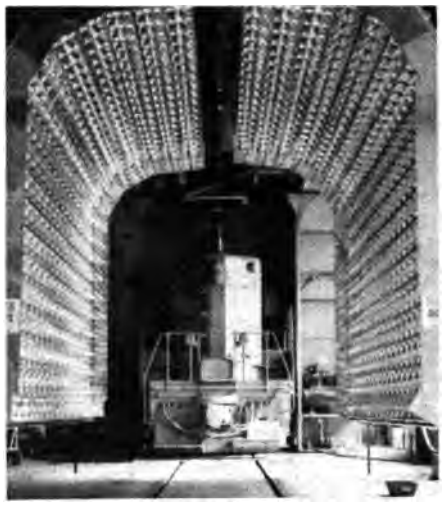
60,000 population, it would be a pleasant place in which to live. Prosperous in its own right, its fortunes would not rise or fall with those of a single manufacturing plant. London was centrally located, convenient to the sources of supply for raw materials, and on the lines of Canada's two major railways.

Two hundred and ten acres of farm land was purchased east of town, and ground was broken on September 22, 1949. In the ancient ritual by which men signify a new undertaking, three men thrust their shovels into the sod. They were Homer Hardy, then reeve of London Township, Ray Dennis, then mayor of London, and E. C. Rippingille, Jr., president of a company that had no plant.

General Motors Diesel Limited, of London, began its career in four offices in the centre of the city. At the head of this small group of key personnel was the company's president and general manager, Mr. Rippingille, Jr., who had directed Electro-Motive's record wartime production of "pancake" sub-chaser engines and had later been manager of the company's Plant 2 where locomotive body sub-assemblies were fabricated.

With him was J. W. Brophy, who had made the original manufacturing studies of the new plant and would now become director of material supply and production control. As the project developed, other trained men joined forces to help guide the destiny of the new company. Robert E. Hunter, who had been Chicago district sales manager, was put in charge of sales, service and parts with offices in Montreal. Assisting him at Montreal was Theodore N. Snyder, formerly in charge of service at Detroit, now service manager of the new company.

William M. Warner, who, as assistant to R. K. Evans, had attended the birth struggles of the Canadian company was made assistant to the president at London. Robert W. Sherk, formerly parts merchandising manager of Electro-Motive, was appointed service parts manager. Jimmy Hilton, superintendent of inspection of the locomotive division at La Grange, and one of the original pioneers of the company, became chief inspector at London. On the manufacturing side, there was George D. Baker, former assistant factory manager at La-Grange; John M. Craig moved from



The Drying Oven at the General Motors Diesel, Ltd., Plant

After paint is sprayed on a new locomotive by men working in mobile booths, the locomotive rolls under the enveloping hood of the drying oven, with 720 infra-red ray bulbs and gold-plated reflectors.

superintendent at Plant 2 to become general superintendent at London; and John H. Ayre, one-time assistant to Evans, took over such matters as tool engineering, work standards and plant engineering.

Others from LaGrange and Detroit were John H. Organ, division comptroller; Dan. J. Smilanich, chief engineer; John Markestein, chief designer; Earl G. Anderson, head of the records department; and Billy E. Drier, supervisor of electrical engineering.

While construction proceeded against the elements of rain, cold and mud, Canadian manufacturers were looking over sample castings and locomotive parts. They were asked to bid on them and thus the initial contact in the production of the initial locomotive got under way. At the same time, key Canadian men were added to the staff, such as C. P. Morrison, who had been director of purchases for the Government's wartime Department of Munitions and Supply, John Fleming, assistant purchasing agent of a large company; Al Ward, private manufacturer who sold his own business to join G.M. Diesel; and Jim Black, purchasing agent for a farm implement company.

Since welding plays an all-important part in the manufacture of G.M. Diesels, the company lost no time in training welders. With the co-operation of the principal, W. A. McWilliams, of the H. B. Beal Technical and Commercial High School, at the active direction of S. E. Colding of the welding school, classes were started to provide qualified men.

The general contractor, Frid Construction Company, of Hamilton, succeeded in erecting, on time, a plant of about 200,000 square feet — 528 feet long by 370 feet wide — in addition to two-story office quarters and a separate boiler house. By April 15, machine tools began arriving. On May 8 the office force moved in. At this early date there was no regular water supply for the plant, or offices. A tank car was provided, with a small donkey engine to furnish pressure to provide water for washrooms and plant boiler. By May 15 supervisors began work on the raw materials comprising a locomotive. By May 29 the company began putting together its first product, a GP7 (General Purpose) unit. June 6 saw production people beginning to fill the plant's departments and the roar of machinery reverberated as the first objective of half a locomotive a day, with an ultimate of one full completed unit, began.

Officers and Officials in Charge of Undertaking

The following, in addition to the President and General Manager, Edward V. Rippingille, Jr., are the General Motors Diesel, Ltd., executives:— Assistant to the President and Manager, Sales Engineering, W. M. Warner; Director of Production Control and Purchasing, John W. Brophy; Purchasing Agent, C. P. Morrison; Production Control Manager, G. P. Eyton; Chief Engineer, Daniel J. Smilanich; Assistant Chief Engineer, D. A. Coape-Arnold; Chief Inspector of Locomotive and Test, J. E. Hilton; Assistant Chief Inspector, H. A. King; Director of Sales, R. E. Hunter; Service Manager, T. N. Snyder; Service Parts Manager, R. W. Sherk; Personnel Director, Bruce Morrice; Employment Manager, E. Sheldon Brent; Safety Director, Mervyn H. Miller; Medical Supervisor, Dr. C. S. Ward;



Left, Wheels and Axles Stored Near the Truck Assembly Area. Right, Building the Streamlined Front Section of a Model FP7-A Diesel-electric Locomotive

Works Manager, G. D. Baker; Director of Manufacturing Facilities and Services, John Ayre; Production Superintendent, J. M. Craig; Resident Comptroller, J. H. Organ; Plant Engineer, A. R. White.

Some of the foregoing were previously with General Motors at La-Grange and Detroit, while others are Canadians, as specified under the heading "The Plan for Canadian Manufacture" in earlier paragraphs.

Proceedings at Formal Opening

At the formal opening of the new plant, on August 11, at which many associated with transportation and industry in Canada were guests, the friendliness of the company was much in evidence, and began with the note of welcome in the printed programmes, stating, "It is both an honour and a pleasure to welcome you on the occasion of this opening ceremony, and to have an opportunity to reciprocate in some small measure for the cordial and hospitable reception which has been given this new organization by all of Canada.

"We trust that you will find this new plant both interesting and stimulating as a new productive force in Canadian industry."

Luncheon for special guests was served in the General Motors "Aerodrome" tent, which itself was of unusual interest. Supported by aluminum framework on the outside, there were no poles or other visible support on the inside. The skin is plastic-treated, fire-proof fabric, the tent having been designed by General Motors for its travelling science shows. The luncheon speakers were Mr. Rippingille; the Lieutenant-Governor of Ontario, Hon. Ray Lawson, and Charles F. Kettering, Research Consultant and General Motors Corp. director. Following luncheon, the guests toured the plant in company with official guides, the tour having taken about an hour. The tour was followed by the plant opening ceremony, at the north end of the plant, with all employees present, when Messrs. Rippingille and Lawson again spoke, and C. E. Wilson, the General Motors Corp. President, also gave a short address. Music at luncheon was furnished by a Hammond organ, and band music was provided by the London Technical Concert Band.

In his introductory remarks at the luncheon, at which there were nearly 600 guests, Mr. Rippingille stated:— "We welcome you to this new plant, and in doing so I assure you I find it most difficult to find words which will adequately express our appreciation for the honour bestowed upon us by the attendance of so large a group of distinguished guests.

"When the construction of this plant was announced in July, 1949, the news was widely publicized and our reception was cordial beyond our hopes and desires. The people of Canada have been most hospitable and co-operative.

"As work has developed, so our circle of friends has expanded. Our associations over the past year, working with the Dominion Government, the city government, the Township people, Chamber of Commerce officials and all associations, have been most pleasant and very helpful. We now have a plant in production, but above all we have an organization, an organization of people whose capabilities and whose character will ensure the maintenance of that reputation and prove worthy of a very prominent position in Canadian industry.

"You have no doubt from time to time heard of the progress we have been making since ground was broken last September 22nd. You have seen pictures or you have seen our products on display or perhaps in action. Today you will see concrete evidence — reinforced with steel. You will see production. But you will also see and talk to men in our organization, from sweeper to welder and from file clerk to engineer, every one whose earnest effort has been woven into this pattern of action. Each of them are justly proud. We are confident that the valuable time you are spending with us today will prove most interesting and worthwhile."

Lieutenant-Governor Lawson, in his luncheon address, stated in part as follows:— "This great plant is surely a tribute to the progressive character of Canadian railroad policy. When the first railway entered London, almost a hundred years ago, its engine burned wood — and usually green wood at that. That which General Motors did for the automobile and truck, it proposes to do for the railway locomotive powered by oil — with the same measure of industrial organization and efficiency. You will understand now why I felt that today's event has historic significance. I am confident that the General Motors Corporation has chosen wisely in locating this great new plant in my native city."

Mr. Wilson, in his address at the opening ceremony, stated in part as follows:— "It is a great pleasure and privilege to take part in the official opening of a nice new plant. A new plant such as this only comes into being as the result of brains and sweat and the co-operation of hundreds of men and women.

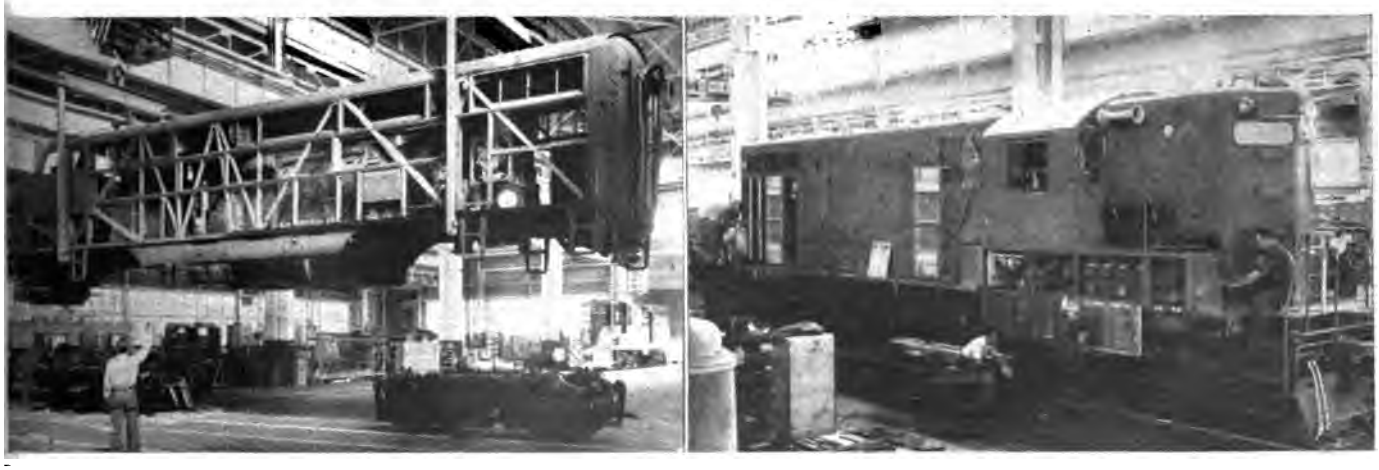
"A new plant like this in a free country is always started with high hopes of great accomplishment. A new plant is not only a symbol of progress, it is progress. It provides opportunities for men, more and better jobs.

"This plant, designed for the special purpose of building Diesel locomotives, is a particularly dramatic new plant.

"We think that with the development of your wonderful oil fields in Western Canada you will be able to use and produce your own Diesel fuel. I understand now you import about 37 or 38 million dollars worth of coal from the States for your locomotives. I have nothing against that or the coal industry, from the Canadian point of view I think you will find it is helpful not to have to dig up that many more American dollars.

"Mr. Rippingille tells me that there are about 700 employees now in the new plant. I want to congratulate him, personally, on a great job of getting such a fine new plant going so quickly. It is about the minimum in which the job can be done.

"I would like to take this oppor-



Left, a Nearly-completed Model FP7-A Locomotive Body Being Lowered onto trucks. Right, the First Locomotive Out of the New Plant, a Model GP-7, 1,500 H.P. Unit for the Toronto, Hamilton and Buffalo Ry.

tunity to also express the appreciation of those others than General Motors for the wonderful co-operation we have had from the business men in London, and as a matter of fact, throughout all Ontario and Canada. We have had the maximum of co-operation and help in this accomplishment.

"I would also like to mention the contractors and workmen who built this plant. I know it was built under considerable difficulty last winter, and as I like to say again, a plant like this only comes into being as the result of brains and sweat and co-operation.

"It is also interesting to note that of the 700 employees of General Motors Diesel Limited, there are only twelve who came from the States and had the experience in our locomotive plants over there.

"That is an indication of how specialized knowledge can be expanded, how by providing facilities and better tools, opportunities can be opened up for hundreds of thousands of people by a relatively few people.

"We, in General Motors, have great confidence in the future of Canada, the present and future. We are conscious of the relatively rapid increase in population over here. We are even more conscious of the economic improvement in Canada. We know that the people of Canada are willing to work for the things they would like to have. You have great natural resources over here, and this plant is only one of the visible, concrete manifestations of General Motors' confidence in Canada.

(Here Mr. Wilson outlined the GMC overall Canadian expansion program, announced a few hours previously at a press conference.)

"These building programmes, together with the facilities necessary to balance and expand the output of automotive parts and accessories, are necessary to meet the increased customer demand resulting from the growth of the Dominion's intensified development of natural resources here, and increased population and rising standards of living.

"At no time since resumption of production following termination of the war have our companies here in Canada been able to keep pace with the greatly increased demand for our products.

"Buick cars have not been built in Canada since 1939. Immediately after the war, Buick and Cadillac cars were imported. When dollar restrictions were put into effect it was necessary to stop this importation. A substantial number of major components of the Buick cars, including the bodies, will be manufactured here in Canada.

"We expect to complete the new Frigidaire plant late next year. The plant will produce household, commercial refrigeration, electric ranges and other household appliances.

"Our present Frigidaire plant at Leaside is operating at capacity, and no more land is available at the immediate site of the plant for expansion.

"General Motors of Canada Limited recently began construction of three buildings at Oshawa and one at Montreal, which are due for completion late this year or early next. They comprise in Oshawa a parts warehouse of 335,000 square feet . . . that is roughly 50 per cent larger than this plant in floor space area . . . 60,000 additional feet in the body plant at Oshawa — an increase in personnel building facilities for people.

"We, at General Motors, not only want good machines, but we want good places for our employees to work.

"Because of the expanded ownership of General Motors cars in Canada, General Motors Limited has planned two new parts depots, one at Vancouver and one at Winnipeg. I just mention this expansion so that in concrete terms you will realize the great confidence we do have in Canada and its future.

"We, in General Motors, frequently talk about a double profit system. We believe in a profit for the customer and a profit for the producer. So when I talk about General Motors expansion in Canada I am appropriately speaking of a double profit, a profit for Canadians in that they will be able to buy products at low and favourable prices. As a matter of fact in a free society like you have here in Canada — and we have in the States — unless a man would rather have the product than his money, he wouldn't buy it, as simple as that. In some other places in the world, unfortunately, it is not so."

(The GMC Canadian expansion programme outlined by Mr. Wilson at the press conference and referred to in the foregoing includes a new 500,000 sq. ft. plant to be built by Frigidaire Products of Canada, Ltd., on a 70-acre tract in Scarboro Township, adjacent to Toronto, this plant to be additional to the Frigidaire plant at Leaside; six new buildings, some now under construction, and others scheduled to be started soon, by General Motors of Canada, Ltd., which will permit resumption of Buick production in Canada beginning with the 1951 models; these buildings comprise three in Oshawa, viz., a parts warehouse with 335,000 sq. ft. of floor space, a 60,000 sq. ft. addition to the body plant, and an addition to the personnel building; the new warehouse in the Montreal area, described and illustrated in our August issue, pg. 456; a parts depot at Vancouver; a parts depot at Winnipeg. McKinnon Industries, Ltd., St. Catharines, Ont., plans a new plant to provide about 135,000 sq. ft. of floor space, to make possible an increase of about 30% in the company's output of automotive parts and accessories.)

O.N.R. Annual Report

We are in receipt of the 48th annual report of the Ontario Northland Transportation Commission, operating the Ontario Northland Ry., formerly the Temiskaming and Northern Ontario Ry. It covers the year ended December 31, 1948, and records that operating revenues in that year were $10,650,384.97, compared with $9,448,-225.73 in 1947, an increase of $1,202,-159.24, and that the 1948 operating expenses were $9,163,411.81, compared with $7,672,645.80 in 1947, an increase of $1,490,766.01. The operating ratio increased from 81.2% in 1947 to 86% in 1948. Net operating income decreased from $1,775,579.93 in 1947 to $1,486,973.16 in 1948, or by $288,606.77, and there was a decrease of $22,170.55 in non-operating income, reducing the gross income from $1,823,377.28 in 1947 to $1,512,599.96 in 1948, or by $310,777.32. Deductions from gross income in 1948 totalled $634,140.83, compared with $594,937.97 in 1947, leaving an amount of $878,459.13 for transfer to surplus in 1948, compared with $1,228,439.31 in 1947.

Comment on Increasing Costs.—In his report to the Commission Chairman, Col. C. E. Reynolds, D.S.O., M.C., the General Manager, Archibald Freeman, states in part:—"In our reports for years 1946 and 1947 reference was made to the fact that without the very high volume of traffic offering, it would not be possible to maintain net earnings at the levels then obtaining. An increase in domestic freight rates of twenty-one percent became effective April 8, 1948, but even with this additional revenue, and the highest gross income this railway has ever enjoyed, our net position has seriously deteriorated, and forcibly illustrates the necessity for relief from ever increasing operating costs. Should the volume of traffic decline, and there is every indication that the present levels cannot continue indefinitely, the results could have a very serious financial effect on this property."

C.P.R. Ordinary Stock Dividend

At a meeting of the Canadian Pacific Ry. Co. directors in Montreal on August 14, a dividend of 2% (50c per share) was declared on the company's ordinary capital stock in respect of the year 1950, payable in Canadian funds on October 2 to shareholders of record at 3 p.m. August 23.

In announcing this dividend, the directors stated:—"Net earnings from railway operations for the six months ending June 30th, though showing a substantial improvement over the corresponding period of last year, are still insufficient for the paying of any dividend. While hopeful that better results may be achieved in the last half of the year, the directors point out that the dividend declared today is attributable solely to the company's income from other sources."

Birthdays of Transportation Men

September 16 to October 15

Many happy returns of the day to:—

A. ALVER, Assistant Superintendent, Canadian Pacific Ry., Toronto, born there, Sept. 22, 1894.

J. E. ARMSTRONG, C.E., M.E.I.C., Chief Engineer, C.P.R., Montreal, born at Peoria, Ill., Sept. 29, 1886.

CAPT. H. R. BAXTER, Marine Superintendent, Canada Steamship Lines, Ltd., Montreal, born at Owen Sound, Ont., Sept. 25, 1900.

T. H. BEST, Regional Treasurer, Central Region, Canadian National Rys., and Treasurer, Toronto Terminals Ry. Co., Toronto, born there, Oct. 6, 1893.

E. P. BURNS, Assistant Superintendent, C.N.R., Cochrane, Ont., born at Richmond, Que., Oct. 10, 1919.

G. H. BUSH, General Freight Agent, C.N.R., Montreal, born at Toronto, Sept. 29, 1894.

J. G. M. CHOUINARD, Assistant Superintendent, C.N.R., Parent, Que., born at St. Jean Port Joli, Que., Sept. 23, 1909.

T. H. COOPER, Vice President and Comptroller, C.N.R., Montreal, born in Lancashire, England, Sept. 19, 1887.

J. W. CORBETT, Purchasing Agent, Central Region, C.N.R., Toronto, born at Montreal, Oct. 4, 1887.

E. R. DALRYMPLE, B.S., Division Freight Agent, C.N.R., Montreal, born there, Oct. 8, 1896.

ARTHUR DUPERRON, B.A.Sc., M.E.I.C., General Manager, Montreal Tramways Co., born at Nicolet, Que., Sept. 29, 1889.

S. W. FIRLOTTE, Superintendent of Export Traffic, C.N.R., Montreal, born at Jacquet River, N.S., Oct. 10, 1895.

G. GORDON GALE, M.Sc., M.E.I.C., President, Gatineau Power Co., Ottawa, born at Quebec, Que, Oct. 9, 1882.

W. H. HOBBS, Vice President, Personnel, C.N.R., Montreal, born at Bletchley, England, October 11, 1891.

J. HARRY HUGHES, formerly Superintendent, C.P.R., Ottawa, born at Georgetown, P.E.I., Oct. 7, 1865.

W. M. JAMIESON, General Freight Agent, Sales and Service, Prairie Region, C.P.R., Winnipeg, Man., born at North Bay, Ont., October 6, 1895.

D. R. JOHNSTON, Roadmaster, C.P.R., Empress, Alta., born at Maple Creek, Sask., Sept. 30, 1905.

LYLE JOHNSTON, City Ticket Agent, C.P.R., Saskatoon, Sask., born at Bothwell. Ont., Oct. 14, 1899.

MAJOR W M. KIRKPATRICK, C.B.E. M.C., formerly Foreign Freight Traffic Manager, C.P.R., Montreal, born at Kingston, Ont., Oct. 8, 1874.

W. B. LANIGAN, formerly General Freight Traffic Manager, C.P.R., and living at Victoria, B.C., born at Three Rivers, Que., Oct. 12, 1861.

J. U. LEMIEUX, District Freight Agent, C.P.R., Quebec, Que., born there, Oct. 15, 1896.

G. S. LINDSAY, General Baggage Agent, C.N.R., Winnipeg, Man., born at Bearsden, Dumbartonshire, Scotland, October 11, 1889.

R. F. McCHARLES, Regional Auditor, Atlantic Region, C.N.R., Moncton, N.B., born at Collingwood, N.S., Oct. 13, 1898

W. A. MACRAE, B.Sc., Engineer of Way and Structures, Toronto Transportation Commission, born at Hamilton, Ont., Sept. 27, 1891.

W. L. MITCHELL, City Passenger Agent, C.P.R., Edmonton, Alta., born at Galt, Ont., Sept. 26, 1887.

L. A. RAYMOND, Superintendent, Communications, C.P.R., Toronto, born at Dixons Landing, Ont., Oct. 2, 1892.

A. BRUCE ROBERTSON, B A., Vice President and General Solicitor, British Columbia Electric Railway, born at Victoria, B.C., Sept. 23, 1904.

W. M. RUSSELL, Superintendent, Winnipeg Terminals Division, C.P.R., Winnipeg, Man., born at Foxcroft, Maine, September 16, 1893.

J. E. ST. LAURENT, C.M.G., a member and Vice Chairman of the National Harbours Board, born at St. Anaclet, Rimouski County, Que., Sept. 24, 1885.

J. L. ST. ONGE, M.C., M.M., Superintendent, Quebec Terminals, C.N.R., born at Riviere du Loup, Que., Sept. 21, 1889.

A. LEO. SAUVE, General Agent, C.P.R., Ottawa, born at Portage du Fort, Que., Oct. 2, 1888.

J. K. SAVAGE, formerly General Superintendent, Quebec District, C.P.R., Montreal, born at Forreston, Ill., Oct. 5, 1876.

S. G. SMITH, Engineer of Survey, Lands and Property, Central Region, C.N.R., Toronto, born at Leominster, England, Oct. 5, 1888.

G. A. SMYTH, Superintendent of Pensions and Staff Registrar, C.P.R., Montreal, born there, Sept. 16, 1891.

J. H. STEVENSON, Superintendent, C.N.R., Allandale, Ont., born at Preston, England, October 11, 1901.

J. R. STROTHER, Superintendent, C.P.R., Edmonton, Alta., born at Montreal, Oct. 15, 1899.

H. W. TATE, M.B.E., B.A.Sc., M.E.I.C., Assistant General Manager, Toronto Transportation Commission, born at Wimbleton, England, Oct. 4, 1884.

W. D. THOMPSON, Manager, Grand River Ry. and Lake Erie and Northern Ry., Preston, Ont., born there, Sept 26, 1899.

O. A. TRUDEAU, Assistant General Passenger Traffic Manager, C.N.R., Montreal, born at Waterloo, Que., Oct. 9, 1888.

F. D. TURVILLE, Solicitor, Law Dept., C.P.R., Toronto, born at Port Arthur, Ont., Sept. 23, 1907.

JAMES USHER, Locomotive Foreman, C.P.R., North Bend, B.C., born at Londonderry, Ireland, Sept. 20, 1888.

G. A. WALKER, K.C., Chairman of the Board, C.P.R. Co., Montreal, born at Toronto, Oct. 8, 1879.

H. W. WALTON, General Manager, The Collingwood Shipyards, Ltd., Collingwood, Ont., born at Stockton-on-Tees, England, September 25, 1894.

N. T. WALTON, Assistant Superintendent. St. Lawrence Division, C.N.R., Montreal, born at Edmonton, Alta., September 26, 1920.

R. N. WATT, President, Montreal Tramways Co., born at Tara, Ont., Oct. 11, 1885.

E. G. WICKERSON, District Passenger Agent, C.N.R., Saskatoon, Sask., born at London, Ont., Sept. 27, 1886.

F. N. WIGGINS, General Manager, C.N.R. Express Department, Montreal, born at Malakoff, Ont., Oct. 8, 1887.

H. H. WILSON, General Eastern Freight Agent, C.N.R.-Grand Trunk Ry., New York, N.Y., born at Buffalo, N.Y., Sept. 19, 1898.

The Law and Railway Strikes

It has been recommended to a committee of the United States Senate that, because a railway strike can so quickly and thoroughly paralyze a nation, bringing about disaster to its economy and working havoc in its defence programme, railway strikes should be prohibited by law.

Testifying on behalf of the railway industry before a subcommittee of the United States Senate Interstate and Foreign Commerce Committee, which is conducting a hearing on domestic land and water transportation, Daniel P. Loomis, chairman of the Association of Western Railways, declared that, if there were any method of preventing railway strikes other than making the findings of Presidential Boards final, the railways would accept it.

"The railway industry approaches the proposition of compulsory arbitration with considerable reluctance," Mr. Loomis continued, "but based upon the experience of the last ten years, we do not see any other solution to the problem."

Mr. Loomis stated that compulsory arbitration of railway labor disputes would result in more agreements being made through collective bargaining because under the present system it has been the policy of at least some of the railway labor organizations to go through all the processes provided in the Railway Labor Act to see what they could get. Then even after a recommendation has been made by a Presidential Board, he added, they reject it in the hope that through political and economic pressure they will be able to get even more than has been recommended.

Need More Real Bargaining

"If both sides fully realized that they ran the risk of losing something through procedures that would be final and binding," Mr. Loomis said, "there would be more real bargaining across the table in an attempt to settle these controversies, rather than allowing them to run the full gamut of the procedures of the Railway Labor Act and then put the pressure on the country and the Government to try and get more."

Mr. Loomis testified that the history of railway labor relations shows that "it would seem very preferable to apply the judicial process to railway labor disputes and have decisions made which are based upon an adequate record, substantial evidence, and a full opportunity to all parties to present all the evidence and argument which they desire."

It is for these reasons, Mr. Loomis declared, that the railways have supported the Donnell Bill, which would outlaw railway strikes and lockouts and make final the findings of Presidential Boards.

The railway spokesman said that although the Railway Labor Act in theory provides for court review of awards made by the Railroad Adjustment Board in the case of contract interpretations and grievances, the policy of the railway operating unions has been to threaten a strike unless the carrier complies with the order, so that as a practical matter no court review has been afforded.

"Thus the railway industry is left without any opportunity to secure its day in court even though some of the Adjustment Board awards run into millions of dollars and vitally affect railway operations and finances," Mr. Loomis maintained.

Asks Changes in Railway Labor Act

Mr. Loomis called for amendments of the Railway Labor Act in addition to legislation outlawing railway strikes. Among these proposals were the removal of certain supervisory officers from provisions of the Act because they are part of management and should not be susceptible to organization by labor unions; the inclu-

sion in the Act of a declaration of public policy covering honest, economical, and efficient operation of carriers, and the elimination and avoidance of wasteful, duplicating, and uneconomic practices in both employment and operation.

Mr. Loomis also proposed amendment of the Act to provide that findings as to the proper representatives of employees be made effective for a period of not less than three years; for the establishment of a tripartite Adjustment Board consisting of the carriers, the employees, and neutral public members to be appointed by the President of the United States with the advice and consent of the Senate; for the establishment of a definite time limit for filing claims growing out of grievances or out of the interpretation or application of agreements concerning rates of pay, rules, or working conditions, and for the adoption by the Adjustment Board of uniform procedures for all four of its divisions.

Railway Operating and Financial Results

April, 1950 and 1949

	All Railways		Can. National Rys.		Canadian Pacific Ry.	
Operating Revenues:—	**April, 1950**	**April, 1949**	**April, 1950**	**April, 1949**	**April, 1950**	**April, 1949**
Freight	$60,846,427	$57,622,641	$30,436,000	$27,253,000	$24,200,508	$24,184,448
Passenger	6,015,107	6,852,192	2,893,400	3,266,100	2,671,677	3,138,443
Mail	720,699	759,876	297,078	330,702	346,662	354,081
Express	2,975,551	3,077,150	*2,154,890	*2,236,811	704,583	718,061
Other passenger train	709,707	823,198	316,734	310,582	377,852	491,273
Water line	79,808	284,956			51,892	84,518
All other	3,413,446	3,249,810	1,743,198	1,821,005	1,429,767	1,165,944
Total Railway Operating Revenues	74,760,745	72,669,823	*37,841,300	*35,218,200	29,782,941	30,136,788
Operating Expenses:—						
Maintenance of way and structures	12,783,443	13,305,624	5,823,862	5,689,390	6,015,890	6,629,288
Maintenance of equipment	15,671,271	15,785,996	8,341,029	8,273,964	6,273,483	6,393,258
Traffic	1,554,613	1,536,705	711,340	731,373	728,205	685,982
Transportation	32,661,667	32,540,531	17,930,786	17,517,783	12,168,341	12,416,690
Miscellaneous operations	989,401	1,075,534	341,857	372,610	535,843	596,805
General	3,536,397	3,416,640	1,777,150	1,645,898	1,483,152	1,483,646
Total Railway Operating Expenses	67,196,792	67,661,030	34,926,024	34,231,018	27,204,914	28,205,651
Operating Income:—						
Net operating revenue	7,563,953	5,008,793	2,915,276	987,182	2,578,027	1,931,137
Railway tax accruals	1,802,332	1,554,987	619,672	610,714	615,617	456,876
Hire of equipment	Dr. 959,637	Dr. 891,923	Dr. 386,357	Dr. 210,647	Cr. 83,488	Dr. 103,793
Joint facilities rents	Dr. 179,510	Dr. 124,840	Cr. 1,843	Cr. 10,532	Dr. 106,144	Dr. 65,713
Operating income	4,622,474	2,437,043	1,911,090	176,353	1,939,754	1,304,755
Operating Statistics:—						
Average miles of road operated	43,215.57	43,227.67§	22,411.77	22,410.27§	17,019.3	17,032.3
†No. of tons carried (Rev. Fr.)	12,178,461	12,782,197§	5,061,327	5,147,481§	4,129,314	4,613,777
No. of tons carried one mile (Rev. Fr.) Thous.	4,452,620	4,603,834§	2,237,111	2,193,757§	1,830,294	2,045,440
No. of tons carried one mile (All Fr.) Thous.	4,940,988	5,078,844§	2,535,152	2,462,136§	2,009,016	2,240,858
Gross ton miles, excl. of locomotive & tender ... Thous.	10,977,252	‡11,042,769	5,581,257	5,266,979	4,436,622	4,847,387
No. of revenue passengers carried	2,476,353	2,722,789§	1,362,953	1,474,646§	910,495	1,015,827
No. of revenue passengers carried one mile Thous.	214,246	254,181§	100,968	119,354§	94,625	115,148
Freight train miles	6,669,172	6,636,077	3,318,949	3,129,630	2,827,369	2,975,329
Passenger train miles	3,537,915	3,627,431	1,728,333	1,766,335	1,582,517	1,609,039
Total train miles (rev. and non rev.)	10,324,073	10,406,270	5,116,467	4,976,466	4,451,596	4,631,885
Freight car miles—loaded	171,252,686	170,972,269	87,741,773	83,744,558	68,800,468	72,740,277
Freight car miles—empty	79,653,768	79,059,516	40,395,375	35,034,256	32,390,239	27,022,465
Passenger train car miles	30,739,327	31,750,333	15,250,843	15,473,809	13,333,365	13,830,973
Total amount of pay roll	$39,184,764	‡$39,976,182§	$21,616,197	$21,815,103§	$15,228,624	$15,740,371
Number of employees	171,161	‡ 176,093§	96,181	97,647§	65,777	68,883
Pay roll chargeable to ry. operating expenses	$36,608,115	‡$37,312,215§	$20,013,077	$20,024,169§	$14,358,968	$14,959,389
Daily Averages Per Mile of Road Operated:—						
Operating revenue	$57.66	$56.04	$56.28	$52.38	$58.33	$58.98
Operating expenses	$51.83	$52.17	$51.95	$50.92	$53.28	$55.20
No. of tons moved one mile (Rev. Fr.)	3,434	3,550	3,327	3,263	3,585	4,003
No. of tons moved one mile (All Fr.)	3,811	3,916	3,771	3,662	3,935	4,385
No. of revenue passengers carried one mile	165	196	150	178	185	225
Averages Per Freight Train Mile:—						
Freight revenue	$9.12	$8.68	$9.17	$8.71	$8.56	$8.13
No. of tons of freight (Rev. Fr.)	668	694	674	701	647	687
No. of tons of freight (All Fr.)	741	765	764	787	711	753
Gross ton miles	1,646	1,664	1,682	1,683	1,569	1,629
Loaded freight cars	25.7	25.8	26.4	26.8	24.3	24.4
Empty freight cars	11.9	11.9	12.2	11.2	11.5	12.4
Averages Per Passenger Train Mile:—						
Passenger train revenues	$2.95	$3.17	*$3.28	*$3.48	$2.59	$2.92
Passengers carried	61	70	58	68	60	72
Passenger cars	8.7	8.8	8.8	8.8	8.4	8.6
General Statistics:—						
Average operating expenses per train mile	$6.51	$6.50	$6.83	$6.88	$6.11	$6.09
Average length of haul (Rev. Fr.) Miles	366	360	442	426	443	443
Average passenger journey Miles	87	93	74	81	104	113
Average tons per loaded freight car mile	28.9	29.7	28.9	29.4	29.2	30.8
Averages freight receipt per revenue ton mile	1.367c	1.252c	1.361c	1.242c	1.322c	1.183c
Average passenger receipt per passenger per mile	2.808c	2.696c	2.866c	2.736c	2.823c	2.728c
Ratio of operating pay roll to operating revenues	49.0%	51.3%	52.9%	56.9%	48.2%	49.6%
Ratio of operating expenses to revenues	89.88%	93.11%	92.30%	97.20%	91.34%	93.59%

† Includes duplications. § Includes statistics for Newfoundland District. ‡ Revised. * Includes gross express revenue.

The above figures relate to those railways with annual operating revenues of $500,000 or over.

C.N.R. figures include only C.N.R. lines in Canada and exclude those of Hudson Bay Ry.

C.P.R. lines include all subsidiary lines in Canada.

Passenger and freight train miles contain a proportion of mixed train miles, divided on the basis of freight and passenger car miles in mixed train service. Total train miles include freight and passenger with their proportion of mixed train miles, special train and non-revenue train miles. The average freight revenue per freight train mile includes only rail line revenue. Average train revenue per passenger train mile includes revenue from passengers, mail, express, baggage, parlor cars, etc.

Some Improvement in April

The figures above, supplied by the Dominion Bureau of Statistics, Public Finance and Transportation Division, show that the Canadian railways did a little better in April this year than in the month last year, net operating revenue having increased from $5,008,793 in the 1949 month to $7,563,953, and the operating income from $2,437,043 to $4,622,474. Gross earnings for the railways collectively increased from $72,669,823 in the month last year to $74,760,745, or by $2,090,922, or 2.9%. At the same time, total operating expenses were reduced from $67,661,030 in April last year to $67,196,792, or by $464,238. The figures cover the operations of the railway lines in Newfoundland in April in both years, representing $733,200 of operating revenue and $998,221 of operating expenses in April this year.

The freight traffic revenue for the railways collectively increased from $57,622,641 in April, 1949, to $60,846,427 in the month this year. While the

number of tons of revenue freight carried decreased from 12,782,197 in April last year to 12,178,461 in the month this year, the average length of freight haul was only six miles greater in the month this year, and the revenue freight ton mileage decreased in the ratio 4,603:4,452, or by 3.3%. However, the average receipt per revenue ton mile was up from 1.252c in April, 1949, to 1.367c in the month this year, with the increase in freight traffic revenue, one of 5.6%, resulting.

The passenger traffic revenue of the railways collectively decreased from $6,852,192 in April last year to $6,015,107 in the month this year. The number of revenue passengers carried decreased from 2,722,789 in the 1949 month to 2,476,353, and with a decrease of from 93 miles to 87 miles in the average passenger journey, the revenue passenger mileage decreased in the ratio 2,542:2,142, or by 15.7%. The average receipt per revenue passenger mile was up from 2.696c in April last year to 2.808c, but this did not go far in counterbalancing the large decrease in revenue passenger mileage, with the decrease in passenger traffic revenue, one of 12.2%, resulting. The falling off in passenger traffic revenue was accompanied by others in mail revenue, express revenue, "other passenger train" revenue and water line revenue, but there was a very moderate increase in "all other revenue". No doubt railway revenues were affected adversely by the Manitoba floods in the latter part of the month this year.

As recorded above, a moderate decrease in total operating expenses on the railways collectively was effected in the month this year, compared with those of the 1949 month. Decreases were recorded as concerns the outlay on maintenance of way and structures and also as concerns that on maintenance of equipment. Traffic expenses increased moderately, as did also transportation expenses. The expenses of miscellaneous operations were reduced, while general expenses were up by 3.5% in the month this year.

Despite the reductions in April this year in the tonnage of revenue freight carried and in the revenue freight tonnage, there was actually an increase in the number of freight train miles operated; viz., from 6,636,077 in April last year to 6,669,172. The result was that there was a reduction of from 694 to 668 in the average number of tons of revenue freight per freight train mile. As concerns all freight, there was a reduction of from 765 tons to 741 tons. Gross ton miles per freight train mile came down from 1,664 to 1,646.

Despite the reduction in the average revenue freight tonnage per train, there was an increase of from $8.68 in April last year to $9.12 in the average earnings per freight train mile, due to the higher average freight rate applying to the April, 1950, traffic. There was very little difference in the two months as concerns the average freight train consist. In April last year, there were averages of 25.8 loads and 11.9 empties per train, while in the month this year averages were 25.7 loads and 11.9 empties. Also, there were only small differences as between the two months in the loaded freight car mileage and in the empty freight car mileage. Loaded freight car miles increased from 170,972,269 in the month last year to 171,252,686, and empty freight car miles from 79,059,516 to 79,653,768.

In the passenger service, passenger train miles operated decreased from

All Railways

	Four Months Ended April 30			
	1950	1949	1948	1947
Operating Revenues	$279,588,475	$279,948,624	$259,112,047	$239,611,891
Operating Expenses	266,636,088	271,356,591	239,994,648	219,010,564
Net Operating Revenue	12,952,387	8,592,033	19,117,399	20,601,327
Operating Income	3,025,307	*1,578,942	6,105,875	7,762,881

*Deficit

The above figures apply to all Canadian railways with annual operating revenue of $500,000 or over; those of the C.N.R. United States lines are not included.

Canadian Pacific Railway

(Including Canadian Subsidiaries)

	Gross Earnings		Working Expenses		‡Net Earnings		Increase
	1950	1949	1950	1949	1950	1949	
January	$24,544,458	$27,767,495	$26,488,163	$28,068,619	*$1,943,705	*$301,124	†$1,642,581
February	26,403,293	26,899,834	26,360,682	27,093,984	42,611	* 194,150	236,761
March	32,229,816	30,890,969	28,965,680	30,077,045	3,264,136	813,924	2,450,212
April	29,782,941	30,136,788	27,843,187	28,832,033	1,939,754	1,304,755	643,999
May	32,022,334	30,471,803	29,616,305	29,617,698	2,406,029	854,105	1,551,924
June	32,322,644	29,068,906	28,883,220	28,557,873	3,439,424	511,033	2,928,391
	$177,305,486	$175,235,795	$168,157,237	$172,247,252	$9,148,249	$2,988,543	$6,159,706

* Deficit † Decrease ‡ After hire of equipment, joint facility rents and taxes.

C.P.R. U.S. Subsidiaries

	Minneapolis, St. Paul and Sault Ste. Marie Rd.		Wisconsin Central Ry.	
	1950	1949	1950	1949
June:—				
Railway operating revenues	$ 3,134,550	$ 3,309,342	$ 2,552,062	$ 2,387,737
Railway operating expenses	2,664,980	2,537,746	1,823,002	1,841,553
Net revenue from railway operations	469,570	771,596	729,060	546,184
Railway operating income	239,278	554,970	590,083	369,289
Net railway operating income	202,833	504,454	451,553	248,364
Six Months to June 30:—				
Railway operating revenues	$15,168,880	$15,563,360	$13,204,975	$13,556,883
Railway operating expenses	14,889,662	14,498,731	10,293,671	10,754,263
Net revenue from railway operations	279,218	1,064,629	2,911,304	2,802,620
Railway operating income	*925,738	*90,064	2,116,415	1,927,155
Net railway operating income	*1,124,027	*343,614	1,246,491	1,158,332

* Deficit

Canadian National Railways

	Operating Revenues		Operating Expenses		Net Revenue		Increase
	1950	1949	1950	1949	1950	1949	
January	$35,041,000	$37,309,000	$37,605,000	$38,797,000	*$2,564,000	*$1,488,000	†$1,076,000
February	36,765,000	36,901,000	38,122,000	38,398,000	*1,357,000	*1,497,000	140,000
March	44,865,000	41,436,000	41,796,000	40,591,000	3,069,000	845,000	2,224,000
April	43,978,000	40,355,000	39,522,000	38,748,000	4,456,000	1,607,000	2,849,000
May	47,534,000	40,184,000	41,197,000	39,587,000	6,337,000	597,000	5,740,000
June	47,770,000	40,589,000	41,217,000	39,703,000	6,553,000	886,000	5,667,000
	$255,953,000	$236,774,000	$239,459,000	$235,824,000	$16,494,000	$950,000	$15,544,000

* Deficit † Decrease.

Central Vermont Railway (C.N.R. Subsidiary)

	Month of June		Six Months to June 30	
	1950	1949	1950	1949
Railway operating revenues	$850.000.00	$786,000.00	$4,943,000.00	$4,739,000.00
Railway operating expenses	753,019.31	647,752.09	4,187,429.09	4,137,532.40
Net revenue from railway operations	96,980.69	138,247.91	755,570.91	601,467.60
Net railway operating income	*23,485.05	50,250.20	138,451.17	47,854.96
Net income available for interest	*49,032.97	26,926.95	7,859.60	*95,966.60

*Deficit

Combined Figures of C.N.R. Canadian and U.S.A. Lines

	April, 1950	April, 1949
Operating Revenues		
Canadian Lines	$ 37,841,300	$ 35,218,200
United States Lines	6,136,700	5,136,800
Total	43,978,000	40,355,000
Operating Expenses		
Canadian Lines	34,926,024	34,231,018
United States Lines	4,595,976	4,516,982
Total	39,522,000	38,748,000
Net Operating Revenue		
Canadian Lines	2,915,276	987,182
United States Lines	1,540,724	619,818
Total	4,456,000	1,607,000
Operating Income		
Canadian Lines	1,911,090	176,353
United States Lines	873,343	112,406
Total	2,784,433	288,759
	Four Months Ended April 30	
	1950	1949
Operating Revenues		
Canadian Lines	$138,725,300	$135,605,200
United States Lines	21,923,700	20,395,800
Total	160,649,000	156,001,000
Operating Expenses		
Canadian Lines	139,101,799	138,475,467
United States Lines	17,943,201	18,058,533
Total	157,045,000	156,534,000
Net Operating Revenue		
Canadian Lines	* 376,499	*2,870,267
United States Lines	3,980,499	2,337,267
Total	3,604,000	* 533,000
Operating Income		
Canadian Lines	*3,471,310	*5,808,271
United States Lines	1,530,716	266,822
Total	*1,940,594	*5,541,449

*Deficit

3,627,431 in April last year to 3,537,915, and passenger train car miles from 31,750,333 to 30,739,327. Despite the higher average passenger fare in effect in April this year, earnings per passenger train mile came down from $3.17 in the month last year to $2.95. With the reduction in passenger train mileage not keeping pace with that in number of passengers carried, the average number of passengers per train came down from 70 to 61.

The operating revenue per mile of road per day for the railways collectively increased from $56.04 in April last year to $57.66 in the month this year, while operating expenses were reduced from $52.17 to $51.83. The revenue freight ton mileage per mile of road per day came down from 3,500 in the month last year to 3,434, the reduction as concerns all freight having been from 3,916 to 3,811. Revenue passenger mileage per mile of road per day came down from 196 to 165.

With a reduction of from 176,093 in April last year to 171,161 in the month this year in average number of employees, the total payroll of the railways collectively was reduced from $39,976,182 in April last year to $39,184,764 in the month this year, while the operating payroll came down from $37,312,215 to $36,608,115. In April this year, the operating payroll took 49% of gross earnings, compared with 51.3% of gross earnings required to meet the April, 1949, operating payroll.

The operating ratio for the railways collectively was reduced from 93.11% in April last year to 89.88% in the month this year. The average operating expense per train mile differed little as between the two months, having been $6.51 in April this year, and $6.50 in the month last year.

Results for Four Months

The figures in the first of the accompanying small tables show that there has been very little difference in the gross earnings of the Canadian railways in the first four months of this year and the same period last year. The operating revenues for the properties collectively decreased from $279,948,624 in the first four months of 1949 to $279,588,475 in the same part of this year. The railways were able to reduce their operating expenses from $271,356,591 in the 1949 period to $266,636,088, with the result that net operating revenue increased from $8,592,033 in the 1949 month to $12,952,387.

In the first four months of last year there was an operating income deficit of $1,578,942, which was replaced in the period this year by operating income of $3,025,307. This improvement, small as it is, is certainly most welcome.

Transcontinental Railways' Results in May

Figures recording the gross earnings, operating expenses and net earnings of the two transcontinental railways, for May this year and last, as furnished by their managements, appeared in our August issue, pg. 427. Improved results in May this year were secured on both roads, the Canadian Pacific having secured an increase of $1,551,924 in net earnings in May this year, compared with those of the 1949 month, and the Canadian National having been able to report a betterment in net of $5,740,000.

Transcontinental Railways' Results in June

Further betterment in railway net earnings was secured in June this year on both transcontinental roads. On the Canadian Pacific, with gross earnings up by $3,253,738 in June this year and with operating expenses increased by only $325,347, net earnings increased by $2,928,391. In the first six months of this year, C.P.R. gross earnings were up by $2,069,691 and operating expenses were reduced by $4,090,015, with the result that the net earnings for the six-month period this year, $9,148,249, exceeded those for the first half of last year by $6,159,706.

On the Canadian National, gross earnings in June this year exceeded those of the month last year by $7,181,000, while the increase in operating expenses was $1,514,000, with the result that net earnings were up in June this year by $5,667,000. In the first half of this year, C.N.R. gross was up by $19,179,000, while the increase in operating expenses was restricted to $3,635,000, with the result that the net earnings for the first half of this year, $16,494,000, exceeded those for the first half of 1949 by $15,544,000.

These C.N.R. figures for May and June, quoted in immediately preceding paragraphs, are for the whole system. C.N.R. figures for April, appearing in the third and fourth columns of the large table at the beginning of this review, are for the C.N.R. Canadian lines only, and do not include the figures for the Duluth, Winnipeg and Pacific, the Grand Trunk Western Lines, the Central Vermont Ry. and the C.N.R. lines in New England; neither do they include the figures for the Hudson Bay Ry., operated by the C.N.R. as agent for the Dominion Government.

C.N.R. Canadian and U.S. Lines

As seen in the large table at the beginning of this article, the C.N.R. Canadian lines earned net operating revenue of $2,915,276 in April. In that month the C.N.R. U.S. lines earned net operating revenue of $1,540,724. This made the net for the whole system $4,456,000. Net operating revenue for the system in April last year was $1,607,000, of which the Canadian lines earned $987,182, and the United States lines, $619,818.

In the first four months of this year, C.N.R. system net operating revenue was $3,604,000; the Canadian lines had an operating deficit of $376,499, while the U.S. lines had net earnings of $3,980,499. In the first four months of 1949 there was a system operating deficit of $533,000, the U.S. lines' net operating revenue of $2,337,267 having been exceeded to that extent by an operating deficit of $2,870,267 on the Canadian lines.

Freight Car Condition

Advice from the Car Service Division of the Association of American Railroads is that on July 1 there were 1,724,088 railway-owned freight cars on United States Class 1 railway lines, of which 118,479, or 6.9% of total, were awaiting or undergoing repairs, and that on Canadian railway lines there were 171,119 railway-owned freight cars, of which 9,390, or 5.5% of total, were awaiting or undergoing repairs.

In the following are specified the numbers of the various classes of railway-owned freight cars on U.S. Class 1 lines on July 1; the numbers of the various classes awaiting or undergoing repairs, and the percentages of such cars on lines.

Classes of Cars	Total Cars on Lines	Cars for Repairs	% of Total
Box, plain and ventilated	650,888	37,064	5.7
Automobile	54,308	3,032	5.6
Gondola	287,740	20,991	7.3
Hopper, open	564,820	47,567	8.4
Hopper, covered	21,381	281	1.3
Stock	46,773	4,270	9.1
Flat	46,782	2,029	4.3
Refrigerator	18,841	1,619	8.6
Tank	7,726	374	4.8
All freight cars	1,724,088	118,479	6.9

Privately-owned Cars in United States.—On July 1 there were 219,331 privately-owned freight cars on United States Class 1 lines, of which 1,214, or 0.6% of total, were awaiting or undergoing repairs. Included were 105,703 refrigerator cars, of which 649, or 0.6%, were awaiting or undergoing repairs, and 106,237 tank cars, of which 558, or 0.5%, were awaiting or undergoing repairs.

Canadian Lines. — Following are particulars of railway-owned freight cars, numbers in bad order and percentages of totals, on individual Canadian lines, on July 1:—Algoma Central and Hudson Bay, 1,498 cars on lines, 58 in bad order, 3.9% of total; Canadian National, 91,435, 6,263, 6.8%; Canadian Pacific, 75,693, 2,972, 3.9%; Ontario Northland, 1,438, 45, 3.1%; Toronto, Hamilton and Buffalo, 1,055, 52, 4.9%.

Sarnia and District Traffic Club

A meeting of the executive committee of the Sarnia and District Traffic Club was held August 9, with Henry Byron, the Club President, presiding. Arrangements were concluded for the fourth annual golf party, to be held September 27. There was considerable discussion of a suggestion for the forming of a club bowling league; this will be put to a vote of the members at a later date.

Strike of Railway Non-Operating Employees

Details of the dispute between the Canadian railways and their non-operating employees, as represented by two Canadian unions and 15 international unions, have been given in these columns previously, as have also the chief features of the majority and minority reports of the boards of conciliation which dealt with the matter. Briefly, both sets of unions requested reduction of the work week from 48 hours to 40 hours, without reduction in take-home pay; the Canadian unions concerned, the Canadian Brotherhood of Railway Employees and Other Transport Workers and the Brotherhood of Express Employees, requested also a wage increase of 10c an hour, and the 15 international unions requested in addition a wage increase of 7c an hour. The majority reports of the conciliation boards recommended a reduction of the work week from 48 to 44 hours, and a wage increase of 6.8c, which would have given the employees practically the same pay for the new 44-hour week as they were receiving for the 48-hour week.

The international unions involved are the Association of Railroad Telegraphers, the Commercial Telegraphers' Union, the International Brotherhood of Blacksmiths, the International Boilermakers' Union, the Brotherhood of Railway and Steamship Clerks, the Brotherhood of Railway Signalmen, the International Brotherhood of Firemen and Oilers, the International Association of Machinists, the International Brotherhood of Pipefitters and Plumbers, the Brotherhood of Maintenance-of-Way Employees, the International Molders' Union, the Brotherhood of Railway Carmen, the Hotel and Restaurant Employees' International Union, the International Brotherhood of Electrical Workers and the Sheet Metal Workers' International Association.

While the railways accepted the majority reports of the conciliation boards, the unions representing the employees found the awards unsatisfactory and declined to accept them.

As previously reported, with the railways evidently not prepared to offer concessions beyond those recommended in the majority reports of the conciliation boards, the unions concerned took a strike vote, with the result that the union officers were authorized by a very large majority of the employees to take strike action if and when considered advisable. Near the end of July, the union representatives began meetings in Montreal, with Frank H. Hall as general chairman of the union negotiating committee, and with A. R. Mosher, head of the Canadian Brotherhood of Railway Employees and Other Transport Workers, in charge of negotiations for the Canadian unions. Early in August it became apparent that there would be very little chance of the railways and their non-operating employees reaching an agreement, and on August 2 the unions arrived at a decision to call a general strike, effective August 22, in the event of agreement not being obtained. However, negotiations between the unions and railways were not terminated, but the concern of the railway managements in regard to the threat of a strike became evident on August 8, when announcement was made that the railway presidents (Donald Gordon, C.M.G., of the Canadian National, and W. A. Mather of the Canadian Pacific) had asked the representatives of the 15 international and two Canadian unions to meet with them on August 10.

The offer made by the railways to the union leaders at the meeting on August 10 was described in a radio address which was made by Mr. Gordon over CBC transcontinental network on August 15. Mr. Gordon referred to the railway offer of August 10 as a "final" one. This offer involved a choice for the employees of a 44-hour week with a 9.1% increase in wage rates, or retention of the original work week with an average wage increase of 8½c a hour, and also involved granting of the 40-hour week "at the appropriate time." It also included recognition by the unions, in principle, subject to negotiation on details, of 10 amendments to existing contracts of which the railways are desirous. Details of the "final" offer of August 10 were given in Mr. Gordon's radio address, which follows.

Railway Presidents' Statement of August 10 and Final Offer

On August 8, joint announcement was made by Donald Gordon, Chairman and President, Canadian National Rys., and W. A. Mather, President, Canadian Pacific Ry., to the effect that they had invited the leaders and committee members of the 15 international and two Canadian unions to meet with them on Thursday, August 10. At the meeting arranged, at which Mr. Gordon spoke for himself and Mr. Mather, and at which the C.P.R. was represented by Vice President N. R. Crump in the absence of Mr. Mather, who was in Western Canada, Mr. Gordon presented a statement embodying the presidents' views, along with the railways' final proposals for settlement of the dispute, and his statement incorporated a request that, in the event of the employees refusing to accept the final proposals, a meeting be held on the following day to deal with the maintenance of essential services, protection of railway property, etc.

The presidential statement incorporated a chronological review of the events in the dispute up to August 8; this is presented in small type in the panel on the next page.

The statement on behalf of the railway presidents, presented by Mr. Gordon in submitting the railways' final proposals, was as in the following.

In considering the general atmosphere in which these discussions are now taking place it is significant to review the history of the negotiations to date. (Chronological review then presented.) It is well to recall that the Majority Report of the Board of Conciliation made this statement:—"There was no collective bargaining in the true sense of that phrase. There was a great deal of very effective argument, a thorough and careful marshalling of facts. But the parties remained protagonists and never assumed the role of negotiators. There was an obvious reluctance on both sides to concede any point for the purpose of arriving at a settlement. No middle ground was even discussed before the Board. The Board was treated as a forum and did not succeed in performing its function of conciliation."

These observations were made under date of April 11th, 1950, and represent an impartial opinion of the proceedings which had taken place between labour and management in this dispute. It is, we think, a serious criticism of the parties involved in this dispute and points to an urgent need for improvement in our methods and procedures when meeting together to settle matters in disagreement. From the point of view of Management, the Railways feel they have tried honestly to promote discussions into a collective bargaining atmosphere and that they have been unable to obtain co-operation in their effort. In their letter to the Minister of Labour under date of May 1st the Railways dealt with this point in these words:—"In the earliest stages of these discussions the railways offered certain proposals for modifications to the 120 separate agreements covering non-operating employees which are now open to revision, and sought to obtain from the union representatives a recognition that these proposals along with the employees' requests, formed part of the subject matter for negotiation.

"The union representatives, however, refused to accept this undertaking, and it became clear that the Railways were expected to make an initial and unilateral concession of

the general case without being able to consider each particular agreement on its own merits. Consequently the railways felt that any tentative offer to compromise would have been used as a lever with which to obtain further concessions without reciprocation on the part of the employees."

Since then discussions which have taken place have produced no proposals from the representatives of the workers — each meeting has simply been a probing for concessions by Management with no indication whatever that the unions are willing to consider anything but their original requests.

In these circumstances we are confronted apparently with an ultimatum, based on an insistence upon original demands which if applied equally to all employees of both Companies are estimated to cost the Railways as follows:—(a) The 40-hour week with maintenance of take-home pay, $80,158,000; (b) The 40-hour week plus 7c wage increase, $110,736,000; (c) The 40-hour week plus 10c wage increase, $123,837,000. On the basis of estimates made by the Railways, the compensating freight rate increases required to meet such figures are:—For 40-hour week, 24%; For 40-hour week plus 7c, 34%; For 40-hour week plus 10c, 38%.

There will of course be an area of disagreement about estimates of this kind, but whatever the margin in dispute no reasonable person can deny that the figures are most formidable. Whatever figures are taken it seems clear that in considering *all* requests from the unions the Railways are confronted with an increase in their wage bill of the order of 20-25%.

We are not overlooking, indeed we are prepared to give full weight to the general assumption, that given sufficient time increased productivity can offset increased wage cost. But no one has been able to demonstrate anything approaching such an increase in productivity as would offset what is here under examination. Moreover, experience has demonstrated that increased productivity comes largely from increased capital expenditures on equipment, machinery, etc., and in light of the steadily increasing share of the revenue dollar going to labour the indications are that labour will in any event benefit more proportionately from productivity gains than will management or the consumer.

The Railways have not argued inability to pay as a sole reason for resisting present requests. Management accepts that the railway worker is entitled to remuneration on a comparable scale as in other industry and does not expect to impose on the worker the burden of carrying on uneconomic operations. What cannot be overlooked, however, is that if railway costs are pushed up to the point of pricing railway services out of the market then the inexorable law of supply and demand will bring about reduced opportunities for employment in the railway business. But quite apart from that, Management is satisfied that railway wages are not seriously out of line — in fact, even now there are many classifications definitely above comparable wages in other industries. With this general conclusion the Board of Conciliation agreed and references to industrial wage indexes confirm the conclusion. All this has been examined in detail and not much is to be gained in re-argument at this point. Those whose opinion has not been influenced by the mass of evidence already submitted are not likely to be swayed at this stage by further exposition of the facts.

What then is the real issue between us? That question is somewhat difficult to answer at this particular point since the original demands of the unions have become somewhat blurred in the discussions and statements which have occurred since the first proposals. In reading your statements which accompanied the Official Strike Ballots issued to the employees, one might assume the main point to be the criticism of that part of the Report of the Board of Conciliation which recommended an hourly rate adjustment of 6.63% if a 44-hour basic week were granted. This is objected to strongly on the ground that, and we quote, "Under this formula the great majority of employees would actually have a reduction in take-home pay". The Railways have, however, already indicated their willingness to negotiate a 44-hour week settlement with no reduction in take-home pay, and have thus met a major point of complaint. It would seem, therefore, the main point now between us is a question of a 40-hour week. The Railways have made a simple and effective reply to this proposal. It is that the railway business is a service industry and on this particular proposal cannot lead the parade in advance of the industries which they must serve. This is a point fundamental to the kind of continuous and uninterrupted service the Railways as public utilities must provide. It does not mean that we resist the trend to a 40-hour week — it simply means we cannot lead on this particular point. This point was examined thoroughly during the Board of Conciliation hearings and it seems to us an irresistible case is made in the majority Reports against the institution of a 40-hour week in the railway business in Canada at this time. This considered judgment is given in comprehensive detail and ought to convince anybody who is open to conviction. It bears out, for example, that in the United States the 40-hour week was not put into effect in railway operations until it had been overwhelmingly adopted in other industries.

The Railways in the past have not hesitated to take forward steps in their labour relations. There are many instances where the Railways were much more advanced than other industries, not only in wage rates but in conditions of employment. In this country there has been no deliberate exploitation of labour in the railway business. The attitude of management for many many years has been con-

Chronology of Events in Dispute to August 8, accompanying Presidential Statement

June 16th, 1949—Notice of demands from non-operating employees represented by CB of RE and International Railway Unions.

July 4th, 1949—Acknowledgement by the railways involved (CNR, CPR, NAR, ONR and THB) giving notice of the railways' intention to seek modifications in existing agreements.

July 8th, 1949—Counter proposals transmitted to employees in writing.

July 13th, July 21st "and subsequently"—Meeting with International Unions representatives principally to discuss procedure. Railways maintain that hotel and water transport employees should be separately dealt with.

July 15th, July 22nd, August 25th and September 13th, 1949 — Meeting with CB of RE principally to discuss procedures as above.

September 23rd, 1949—International Organizations request appointment of Conciliation officers.

October 11th, 1949—CB of RE applies for appointment of Conciliation officers.

October 18th, 19th and 20th, 1949—Conciliation officers confer with railways and representatives of both unions without results.

October 28th, 1949—Invitation to both parties to nominate members for two Conciliation Boards.

November 16th, 1949 and December 8th, 1949—Appointment of members of Conciliation Boards.

December 19th, 1949—Preliminary meetings to agree on the date for hearings.

January 10th, 1950—First public hearings by Conciliation Board dealing with International Unions: after an interim adjournment hearings completed March 10th.

January 12th, 1950—First public hearings of Conciliation Board for CB of RE and Bro. of Express Employees: after an interim adjournment hearings completed March 7th.

April 14th, 1950—Reports of both Conciliation Boards released by Minister of Labour.

April 15th, 1950—Press release by International Unions and CB of RE indicating that Boards' reports would almost certainly be unacceptable to the Negotiating Committees.

April 24th, 1950—Official reply of CB of RE and Bro. of Railway Express Employees rejecting majority reports.

April 25th, 1950—Information received that strike ballots would be sent out by CB of RE, returnable on June 15th, 1950.

May 1st, 1950—Official reply by the railways to the Minister of Labour, accepting the majority reports of the two Boards.

May 11th, 1950—Official reply by International Organizations rejecting majority reports of the Board.

Several Informal talks took place between the parties during the months of June and July in an effort to define an area for official negotiation.

June 8th, 1950—Information received that strike ballots would be sent out by the International Organizations, returnable July 24th.

July 3rd, 1950—Press announcement by CB of RE of overwhelming majority in favour of strike.

July 31st, 1950—Press announcement by Frank Hall announcing 95% majority in favour of strike.

August 2nd, 1950—Notice received from both Unions, dated August 1st, of intention to strike on August 22nd, at 6 a.m.

August 3rd, 1950—Joint meeting with Hall and three committee members at 10 A.M., and with Mosher and three Committee members at 11.30 A.M.

August 8th, 1950—Joint meeting with International group at 2 P.M. and with CB of RE group at 3.30 P.M.

sistently to give labour a reasonable and fair deal. Indeed on both sides, labour and management, there has been a tradition of enlightenment with moderation and restraint on both sides.

But to be frank, management is now of the opinion that this sort of attitude is not now being exhibited. We question definitely that the union representatives are bargaining in good faith. Our experience in our discussions with you leads us to believe that each suggestion made by us in an effort to effect a settlement becomes a lever for probing still further concessions. It must be remembered that we have responsibilities not only to our employees but as well to the public at large who are entitled to railway service at reasonable cost and on the basis of their requirements. An increase in cost, of the magnitude shown in the figures before us, would engender very serious inflationary pressure and coming at a time when the economy is struggling with the staggering effects of World War II as well as the tenseness of the existing international situation it would be, in our judgment, an act of serious irresponsibility on the part of both railway labour and management if adjustments of the order of magnitude now proposed were attempted. Public opinion is obviously aroused on this subject, and in all sincerity we suggest that the real interest of the workers would not be served if such action were forced under the threat of a railway strike. The fact that the strike weapon in the Railway is such a devastating one imposes upon those who propose to use it a grave and even frightening responsibility far greater than any power given to Government even during our greatest national emergency. Have a care that in winning an apparent victory you do not damage your own organizations. If you force this issue to a conclusion through imposing upon the Canadian Public the disaster of a strike then we predict you will live to regret it.

It may be thought that the risk of a strike will force the settlement of this dispute out of the hands of Railway Management. On that point we would also urge labour to stop, look and listen. Whatever temporary satisfaction this may seem to bring will not be in the real interests of the men or your organizations. Railway Managements are best qualified to discuss and adjust working conditions and remuneration with their own employees, and if we fail to find a procedure whereby we can reach agreement between ourselves as reasonable people, then we predict that the less intimate and less informed judgment of others will not in the long run be very beneficial. The trade union movement has always been the first to suffer when state control replaced the democratic process. These statements we make with a sincere and genuine feeling for the best interests of the employees of the railways, and the organizations they have built up to represent them. We repeat that the achievement of a real partnership of interest between labour and management is the thing that will be most likely to enhance the welfare of both.

On this very point we notice a gossip item in one of the local morning papers in which an assumption is made about Government intervention in this dispute. As we say, the item is purely in the form of a gossip conjecture and has no Governmental sanction whatever. But it does underline the statement we have just made that our mutual interests will be best served if we reach agreement between ourselves.

The present situation in which a railway strike hangs over the Canadian scene is most unsatisfactory. It imposes a nerve strain on all concerned at a time when we badly need to devote all our energies and thoughts to the grave threat of war and a national emergency arising out of decisions to be taken in that respect. It leaves the railway employee in a most uncertain and unhappy frame of mind because we are normally certain he does not wish to walk out on his job at a time like this, no matter what issues are involved. We know this opinion seems diametrically opposed to the strike ballot which has been reported by the Unions but Railway management retains too high an opinion of the loyalty, steadfastness and sense of responsibility of their employees to believe a strike would not mean a heart-breaking situation for them. That is not to say they will not carry cut their undertaking to strike if Union leaders decide to call upon them to do so, but, as already stated, it will cause great unhappiness and self-reproach. Of that we are sure.

As well, the general public is inconvenienced and business arrangements are made uncertain so long as the likelihood of a strike persists. Moreover, a railway strike would so cripple our economy that it would weaken for a long time our ability to take a strong line in international affairs and thus give great "comfort to the enemy". Therefore, Railway management feels strongly that the issue must be faced resolutely so that all interests, the worker, the public, and the Government, as well as the Unions and Railway Management, will know precisely what is facing them. The time has come to remove this uncertainty which hangs as a blight over our day to day life. With this in mind, the Railways have decided to make a concrete offer which represents the ultimate which can be expected of them. In doing so, we must emphasize that it is a final offer and that no good purpose will be served in taking it as another bargaining point. If it is not accepted then it must follow that all compromise offers in this dispute are withdrawn, and that the Railways stand by the provisions of the agreements dated July 16th, 1948, without any amendment. In the unfortunate event that the Union leaders prefer this development and proceed with strike action instead of an acceptance of the far-reaching and generous proposal now made, Railway management requests a meeting at 9.00 a.m., August 11th, for the purpose of reaching immediate understandings on the subject of maintaining essential services, protection of railway property, etc., during the period of withdrawal from service. Action and agreement is necessary on that date because the Railways will then require to give general notice of the impending strike, and take steps subsequently to embargo freight and express movements, as well as giving warnings to intending passengers, and so on. The Railways also wish it to be understood that they feel free to inform railway employees and the public generally of the offer put before you today. We shall also invite all concerned to express an opinion, so that if remedial action is taken in the national interest, it may be undertaken with full appreciation that the Railways have throughout these discussions, sought a reasonable settlement. Moreover in going beyond even the recommendations thought reasonable by the Conciliation Boards the Railways in this final offer are making an earnest effort to meet what seems to have been the major objection to the settlement proposed in the Boards' Reports.

The Railways propose a choice in the form of settlement based on considerations which we shall now outline. Under present conditions the Railways feel strongly that hours of work should not be reduced. The demands of existing traffic requirements, together with the increased pace of production and transportation likely to be required in light of the present and foreseeable future in world affairs, make it apparent that reduced working hours would be a retrograde step so far as production is concerned. However, the representatives of labour have argued strongly their desire for a shorter work week, and the majority report of the Conciliation Board has recommended that a 44-hour basic work week be adopted. The Railways have said they would be willing to negotiate on that basis, and we have now further agreed to accept the additional cost involved in maintenance of take-home pay. Therefore the Railways propose that a choice be made between this and the alternative of maintenance of basic hours with a wage increase equivalent in expense to the Railways. Such a solution would give the employees a marked wage increase to meet the rising cost of living complained of in their sub-

missions to the Board, and is undoubtedly a more practical contribution to their welfare than a solution based on providing more hours of leisure.

Railways' Final Proposals

The final proposals of the railway managements, as presented along with the foregoing presidential statement (and not applicable as concerns hotel and water transport employees) were as follows:—

1. Recognition by railway management of a moral obligation to implement the 40-hour week at the appropriate time.

2. Recognition by the unions in principle, subject to negotiation in detail, of the followng amendments to the terms of existing contracts:

(i) All employees having less than six (6) months' seniority will be considered as on probation.

(ii) Revise rules to provide that in case of staff reduction as much advance notice as possible will be given employees affected.

(iii) Modify and/or incorporate rules regarding apprenticeship rates and period of application.

(iv) Provide for variation in starting time to meet requirements of service.

(v) Provide for establishment of meal periods to meet requirements of the service.

(vi) Modify reference to payment of time and one-half for Sunday work as such and provide for the establishment of a seventh day off duty, not necessarily Sunday.

(vii) Amend vacation with pay provisions in conformity with reduced work week.

(viii) Modify overtime rule governing Road Service Express Messengers and Helpers.

(ix) Modify rule presently restricting work on Sundays.

(x) Modify rule governing S. & D. Car Department Employees to provide that when consist of passenger train is more than three (3) and not exceeding eight (8) sleepers one Conductor will be assigned and extra Conductor assigned when consist exceeds eight (8) sleeping cars in service.

3. EITHER A. A 44-hour basic work week with a 9.1% increase in hourly rates so as to maintain take-home pay. In regard to monthly rated clerical employees there will be an understanding that a five-day actual work week may be granted by local arrangement in selected cases where the hours now actually worked are less than 44, on condition that the requirements of the service are protected up to 44 hours per week.

OR B. An increase in basic wage rates approximately equivalent in expense to that involved under Plan A. This would average 8½ cents per hour for all employees, but is to be graduated in three steps so as to provide for:— (i) A maximum hourly or monthly wage increase. (ii) Lesser amounts in specific cases where it is necessary:— (a) to avoid raising the occupational rates still further above those paid in outside industry for comparable work. (b) to widen the differential between successive positions so as to provide a reasonable incentive for advancement.

"Final" Offer Rejected by Unions

At the meeting on August 10, the C.P.R. was represented by Vice President N. R. Crump, President Mather having been in Western Canada.

The "final" offer on behalf of the railways did not prove acceptable to the union leaders. In a letter addressed to the railway presidents by Mr. Hall, following the meeting, he accused the railways of delaying tactics in the face of hour reduction and wage increase requests made 14 months previously. He said that the "nebulous" implementation of the 40-hour week was unsatisfactory. The 8½-cent offer was even more so, for it was "conditional upon scuttling the shorter work week."

He said estimated costs of meeting the men's demands were exaggerated and that the C.N.R. and C.P.R. in 1949 granted their employees in the United States a seven-cent increase and the 40-hour week.

He also criticized appointment of judges to head conciliation boards, saying they lacked training and experience in labor disputes involving sociological and economic factors.

At the same time, he said the unions "reiterate the hope that a strike can be avoided." He said the absence of any previous national strike emphasized the employees' conservatism.

Mr. Mosher, in his reply to the railway presidents' offer, said that the position taken by the railways had made clear that they were not then prepared to consummate an agreement which would be acceptable to the employees involved. He said that the railways' moral obligation to make the 40-hour week effective at the appropriate time was entirely too indefinite for acceptance by the employees. Also, he said that the employees in the Canadian unions would be willing to compromise on certain features of their demands, but felt that this would be of no practical value because of the declaration of the railway managements that their offer had been a final one. He concluded by saying that if the railway managements would intimate to the union leaders that they were willing to accept reasonable counter-proposals and discuss them on their merits, the union leaders would be fully prepared to submit proposals to the railway representatives without delay.

Following receipt of advice from the union leaders that the "final" offer was not acceptable, the following joint statement was issued by the railway presidents:—"We have just been informed by leaders of the two union groups involved in the current labour dispute that the final proposals of the Railways put before them in this morning's meeting are unacceptable to the negotiating committees.

"The union representatives gave no indication that they were prepared to recede in any degree from their full demands for a 40-hour week and an additional wage increase of 7c to 10c per hour.

"In these circumstances the Railways have no alternative but to prepare for strike action by the employees and appropriate announcements and arrangements will be made at once."

Railway Presidents Reply to Mr. Hall

Following receipt of Mr. Hall's letter, in which the refusal of the international unions to accept the railways' offer of August 10 was recorded, the railway presidents replied to him by telegram as follows:—"In view of emergency of impending rail strike we take this means replying promptly to points in your letter August 10th. Reference to delays is surely answered by the concrete offer made by Railways so as to crystallize considerations now on firm basis. Suggest no good purpose served in threshing old straw since emergency is here now. Same comment applies to expressed dissatisfaction with personnel conciliation boards since that sort of objection not now an issue in arriving at settlement at this time. Railway offer does not scuttle the 40-hour week proposal as stated by you. On contrary Railways accepted a moral obligation to implement 40-hour week in principle. That is an honest undertaking and the question of fact which remains to be agreed in due course in regard to the timing can surely be settled by objective examination of prevailing conditions in other industries. We make no suggestion you should veto your memberships' strike vote or disregard membership wishes. Our understanding is that strike ballot appointed your negotiating committee as attorneys with power to exercise judgment in effecting settlement. Hotel and water transport workers have no necessary relation to conditions of railway employment and are unnecessary complication. Separate consideration of the claims of these employees on merit should not be allowed to hold up much more important settlements at this stage. After full consideration of our responsibility for welfare our employees which we feel very deeply we urge strongly that you call off strike action on date announced and thus enable calm judgment to be exercised in regard to situation as it now stands. Deadlines are not conducive to mature responsible decisions."

A copy of the above telegram to Mr. Hall was sent to Mr. Mosher, and to the message to Mr. Mosher the railway presidents added the following:—"We also direct personal appeal that you call off strike action in view

of strike ballot which authorizes your committee to act at discretion."

First Embargo Prospect

A statement issued on the evening of August 11 by J. A. Brass, General Secretary, Railway Association of Canada, drew attention to the fact that all passenger, freight, express, inland and coastal shipping and ferry service of the railways would be brought to a standstill in the event of a strike becoming effective.

More Radio Broadcasts

The radio broadcasting facilities were extensively employed in an effort to keep the public informed of developments in the dispute. Mr. Gordon spoke over CBC on the evening of August 15, and Mr. Mosher replied to his statements on the same evening. On August 17, Mr. Mather spoke over Station CBL at 8:15 and over Station CJBC at 8.45 p.m., and Mr. Hall gave a radio address on the same evening. Mr. Mather's radio address is reproduced in the following.

Mr. Mather's Radio Address, Aug. 17

In speaking over the CBC radio network on the evening of August 17, President W. A. Mather of the C.P.R. Co. stated:—

"The Prime Minister of Canada has addressed an appeal to the two major Canadian railways and the representatives of the employees involved in the present dispute. The President of the Canadian National Railways and I have said that we are willing to resume discussions with the employees' representatives as the Prime Minister has requested. If the labour organizations concerned do not postpone their proposed strike action, then at 6.00 a.m., Tuesday morning next, August twenty-second, all the public services which the Canadian people have come to expect from their railways may cease; all train, telegraph and cable facilities will be strike-bound. It is with that extremely serious situation in mind that Mr. Donald Gordon, speaking to you on behalf of the Canadian National Railways, Tuesday evening, this week, and I, tonight, come before you to explain the facts as we see them of the dispute between the Railway Managements and a large proportion of the railway workers. In presenting these facts, I should like to emphasize to you that, in spite of some observations to the contrary, the Railway Managements' presentations to the public have been and are based upon the findings of the Boards of Conciliation which made them after hearing the cases of both the railways and the employees concerned.

"With the cessation of the services which I have mentioned, Canada would experience an economic dislocation affecting everyone in this country. The dispute between Management and Labour would then no longer be our problem alone, but one that would be shared by every citizen.

"Mr. Gordon has said, and I repeat, that railway management does not believe that a strike is in any way justified. For those who perhaps, understandably, have not followed the day-to-day developments in this dispute, I will review briefly some of the major events which have occurred in the discussions which have taken place between the Management on the one hand and the employees' representatives on the other.

"On June 16, 1949, the employees involved in the dispute presented demands for a forty-hour week with forty-eight hours' take-home pay. On top of this they asked increases of 7 and 10 cents an hour. These demands were calculated to cost the Canadian Railways — that is the Canadian Pacific Railway, the Canadian National Railways, Toronto, Hamilton and Buffalo Railway, and the Ontario Northland Railway — a sum approximating $124,000,000 a year, if those conditions or their equivalent applied to all employees.

"The only way to pay wage increases of such magnitude, would be to ask for and receive, not a normal increase in freight rates such as may be demanded by the changing Canadian economic scene, but by an increase in freight rates of major proportions, as would be felt in every home in every part of the nation.

"Every housewife, indeed every citizen, will realize the situation which would be created, a situation which we believe particularly unfair because the railways have made a reasonable offer, which in its terms and scope fully meets the needs of the employees under present conditions.

"I will not burden you at this time with the long and troubled discussions, and the hearings before Boards of Conciliation. You will know that the Managements of the Railways accepted the recommendations of the boards set up by the proper Governmental machinery. The employees' representatives refused to accept the Boards' recommendations and have not indicated at any time a willingness to negotiate or to budge in any respect from their original position.

"Time does not permit details, but broadly the recommendation of the Boards was that the work week of the non-operating employees, except hotel and water transport employees, be reduced to 44 hours and their hourly wage increased by 6.63 per cent in order to maintain on an approximate basis the same take-home pay enjoyed on the 48-hour work week programme.

"You have heard much of Conciliation Boards which are set up by the Government in cases where labour and management cannot reach agreement. They are created for the purpose of avoiding just such an impasse as now confronts us. It is true that their recommendations are not binding, but if they are to have no weight or authority, then an essential feature of democratic rule is thrown into disrepute.

"You have undoubtedly read in your newspapers and learned from broadcasts, the final offer made by the Railway Managements in our sincere and continuing efforts to bring about settlement of this labour dispute — which, especially in view of the international situation at this time, is so important to us all.

"Nevertheless, it is essential that I repeat to you the fundamentals of our final settlement offer and ask, because of its prime importance to you, that you listen carefully.

"Basically, it consists of three points —the third of which presents an alternative:

"One — Recognition by Railway Management of a moral obligation to implement the 40-hour week at the appropriate time. This means that the forty-hour week would be recognized in principle and put into practice when the transportation requirements of basic and heavy industry throughout the nation permit it. Railways are a **service industry.** They carry the raw materials to industry. They deliver the finished products. Consequently they cannot provide the vital transportation needs of industry on a five-day week basis until a greater proportion of all Canadian industry is operating on that basis.

"In Canada we must always remember that we live and maintain ourselves on the flow of our domestic and export trade. Moreover, to implement a 40-hour week and still maintain the present standard of railway services, would cost the railways $80,000,000 per year in excess of present payrolls.

"Two — Recognition by the unions in principle, subject to negotiation in detail, of minor amendments to existing contracts covering working rules to bring about more efficient operation.

"Three — Either (A) A 44-hour basic work week with a 9.1% increase in hourly rates which would maintain the present take-home pay. In regard to monthly-rated clerical employees, there will be an understanding that a five-day actual work week may be granted by local arrangement in selected cases where the hours now actually worked are less than 44, on condition that the requirements of the service are protected up to 44 hours per week when necessary.

"Or (B) A graduated increase in basic wage rates approximately equivalent in expense to that involved under PLAN A. This would cost the railways $37,000,000 per year, and would mean an average increase of 8½ cents per hour to the employees.

"The impact of a strike will be so serious to you as individuals that you should appreciate this fact,—that the vote to strike was taken and the strike date set while negotiations were still in progress and before the final offer,

which has just been explained to you, was made to the employees' representatives. They adhere rigidly to their original demands.

"We believe that it would be neither for the good of the nation nor for the railway workers themselves, even if they adopted a purely selfish attitude, if the railways granted these full demands. I emphasize to you that these demands were found, by an impartial Board, to be unjustified. The unions' representatives compare rates and conditions of work in the United States with those of Canada; the Conciliation Boards properly found and I quote, "When the per capita wealth and productivity of Canada rise to the levels attained in the United States, railworkers will doubtless receive their due share of the new national income. Until that occurs, they must, like the rest of us, accept their due share of the present national income."

"The railways cannot meet the increased costs imposed by the men's demands from their present revenues. Indeed, there are no profits sufficient to meet the expense involved in the offers which have already been made by Management. We all know that no one gets anything for nothing. When wages rise, railways must have more earnings and those earnings have but one source — you the travelling and shipping public provide them.

"In reciting to you the essentials of the dispute, Mr. Gordon and I are asking you, as responsible, thinking Canadian citizens to keep these facts in your mind and to weigh the problem as one affecting you vitally. It is only fair to ask you, at the same time, to bear in mind that railway employees involved are not underpaid and do not suffer by comparison when judged by comparable wages paid in other Canadian industries.

"Canada has never suffered a nation-wide transportation strike and our citizens cannot be expected to realize the scope of the disruption to industry and to normal living which will result if railway workers walk off their jobs on Tuesday next. It is difficult to comprehend that, as of 6.00 o'clock Tuesday morning next not one wheel will be turning on Canadian railways, and this applies to every province, to every city, town and village and to every community throughout the country. Railway service, year in and year out, has been so dependable and so continuous that all Canadians have come to accept the railways as a matter of course. A railway strike would be completely crippling to the national economy, — bringing unnecessary suffering and hardship to all.

"Well! — you may ask, what can I, as a private individual do at this late hour to avert this threat to my personal and family welfare? Except for the necessity of providing me with information, which will assist in the exercise of my judgment, why do the Presidents of Canada's two major railways speak to Canadians in this serious situation? I believe the answer will be this: No one denies the right of labour, under the law, to strike as a means of accomplishing an end which is justified.

"However, as I have said earlier, these demands have been found by the appropriate tribunal, created by law, to be not presently justified. No group, even though it comprises some 100,000 individuals, should be able, until every possible alternative has been explored, to jeopardize the welfare of Canada as a whole.

"To you individual Canadian railway workers who are listening to me tonight, and who expressed a willingness to strike before the railways' final offer was made, and to the Canadian public generally, I leave this question: Is not that offer in the light of all circumstances a fair one?

"To those who are not railway workers, particularly I say, examine the facts, judge them for yourself, and make your opinions known as widely as possible. As Mr. Gordon has said previously, we are before the bar of public opinion."

In his radio address, Mr. Hall said that since the original demands of the employees were presented some 14 months earlier, the cost of living had increased to such an extent that the demands have become much below what is needed. He said that the seven-cent increase sought by the international unions is not enough, and that a twelve-cent an hour increase would be required to compensate the employees for their long wait and to make up for the increase in the cost of living. He drew attention to the fact that the five-day week is increasingly becoming the rule in industry and trade; that the C.N.R. and C.P.R. have already granted the 40-hour week to their employees in the United States, and that the cost of making the 40-hour week effective on the United States railways has been far below the figure anticipated by the managements of those railways.

Statement and Request by Prime Minister

Naturally, the Dominion Government was keeping in close touch with developments, and the Prime Minister, Mr. St. Laurent, when informed that no agreement between the railways and their employees had been reached, addressed the following letter to the railway presidents and the union leaders:—"This letter is written on behalf of the Government of Canada and it is a joint letter because those addressed represent the parties concerned in the current dispute between the railways and the unions representing the non-operating employees of the railways.

"**We recognize** that the parties to the dispute are most anxious to avoid a strike which would tie up all railway transportation facilities of Canada and their allied services. The government believes that every effort should be made to avoid a strike of such serious consequence and believes also that such is the feeling of every Canadian.

"The government has taken note of the fact that negotiations, at the moment, appear to be deadlocked and that there is a possibility of the negotiators not being able to come to a mutually satisfactory understanding before the strike deadline.

"**A disruption** of transportation and other railway facilities in Canada would be a very disturbing event even in normal times and would have most serious effects not only on the railways and their employees but on the economy and the welfare of the whole country. The importance of avoiding any disturbance in the handling of traffic and interruption in other services under the existing circumstances and dangers of the international situation cannot be too strongly emphasized.

"The Department of Labor has followed the customary procedure in providing the normal conciliation services to the parties, under the provisions of the Industrial Relations and Disputes Investigation Act. The government has seriously hoped that the parties would come to an understanding without any further government action. Even at this stage it is hoped by the government and also, I am sure, by the public as well, that the parties will resume their negotiations and carry them through to a successful conclusion.

"**However, in recognition** of all the facts and because the remaining time is short, I am asking you, with the full force of the government behind the request, to postpone strike action for 30 days. The government itself cannot, under our present labor legislation, impose a settlement upon the parties in respect of the difference between the report of the conciliation board and the demands of the union. However, if, in respect of that difference, a settlement is not reached by the parties themselves prior to Aug. 22 and strike action is postponed, the government will appoint a special commissioner to act as a mediator.

"On behalf of the government and in the interest of all Canada, I request that you use your best endeavors at once to dispose of the dispute yourselves or, failing settlement, that you comply with this request for postponement of strike action for 30 days in order that the special commissioner may have an opportunity to exercise his good offices."

Shortly before Prime Minister St. Laurent had addressed his letter to the disputants and sought postponement of strike action for 30 days, the railways had issued a statement to the effect that no new proposals of any kind had been made by the union leaders in an effort to bring about a settlement of the wage dispute, and Mr. Hall had stated that there was no

change in the situation. The railway presidents stated that they had given consideration to a suggestion made by Percy Bengough, President of the Trades and Labor Congress of Canada, to the effect that if the railways would fix a definite date on which the 40-hour week asked by the unions would become effective, it might make some difference in the decision of the unions to strike on August 22.

Unions Refuse to Postpone Strike

While there was immediate acceptance from the railways of the suggestions for giving more time to the settlement of the dispute, as contained in the letter from Mr. St. Laurent, the unions deferred decision on the matter of a 30-day postponement of strike action, and on August 17 indicated their unwillingness to agree to a 30-day postponement of the scheduled strike. However, they expressed willingness to resume negotiations with the railway representatives, either directly, or with a mediator participating, as suggested by Mr. St. Laurent. Direct conferences between the railway and union representatives were resumed on August 17. The first discussions were between the railway representatives and those of the Canadian unions, but they were of short duration, as the railway representatives held to the terms of the final offer presented the unions on August 10, Nor were any results secured from the negotiations between the representatives of the railways and those of the international unions on August 18. The railway presidents repeated their final offer of August 10, offered no further concessions and insisted that the offer was conditional upon the unions accepting the 10-point revision in working conditions. The unions offered one concession, viz., that the 40-hour week become operative at the beginning of 1951 instead of immediately.

Mediator Appointed

On August 18 it was announced by Labour Minister Gregg, in Ottawa, that Dr. A. W. Mackintosh, Vice Principal and Dean of the Arts Faculty at Queen's University, had been appointed mediator in the dispute. Dr. Mackintosh, accompanied by the Deputy Minister of Labour, Arthur MacNamara, and the Director of Industrial Relations, M. M. MacLean, left Ottawa for Montreal on the evening of August 18. The first conference in which Dr. Mackintosh participated was held on August 19. Negotiations between the railway and union representatives on the preceding evening had been without result, and had been followed by a railway statement which said: "The representatives of the unions stated their final demands to be a five-day, 40-hour week effective Jan. 1, 1951, with maintenance of take-home pay on a 48-hour basis and a wage increase of seven cents an hour retroactive to July 16, 1949."

While discussions in Montreal with Dr. Mackintosh participating proceeded on August 19 and 20, they were without result. The railways refused to depart from their final offer of August 10, and the unions continued to insist on a 40-hour week with pay for 48 hours plus a wage increase of seven cents an hour, qualified only by their willingness to have the 40-hour week introduced at the beginning of 1951 instead of immediately.

Some Concessions, But Not Enough

Negotiations in Montreal continued at a feverish pace on August 21, and the railway managements departed from their final offer of August 10 to the extent of specifying a date upon which they would be willing to introduce the 40-hour week.

When negotiations were finally discontinued, the railways and unions had both made concessions which brought them only one cent apart as concerns the amount of the wage increase and only one month apart as concerns the effective date of the 40-hour week, although they were still far apart as concerns the revisions in working rules which the railways had demanded. Concessions made by the unions provided for acceptance of the 40-hour week effective September 1 next year, and for a wage increase of five cents an hour effective September 1 this year, but the unions continued to insist, as they had throughout, that hotel and water transport employees be included in the agreement. The unions were also insistent that the railways withdraw their demand for changes in working rules.

The railways, on their part, were offering a wage increase of four cents an hour effective September 1 this year, on a graduated scale subject to mutual agreement. They offered to make the 40-hour week effective October 1 next year, with a transitional period of approximately nine months, with overtime rates not applying up to 48 hours during such transitional period. They also offered the unions a three-year contract with a 2% cost of living bonus for each 1% increase in the cost of living index above that for October 1 this year. However, the railways insisted upon negotiations for revisions in the working rules, with the matter to be submitted to a referee for final decision in the event of disagreement. Also, the railways continued to demand exclusion of the hotel and water transport employees from the general agreement, but did offer a one-year agreement to cover these employees, with a wage increase of two cents an hour effective September 1 this year, with the money pooled and distributed among the employees after a study of their work and responsibility.

The unions objected vigorously to the three-year contract proposed by the railways, but offered to accept a two-year contract. Mr. Hall, at a press conference, described the three-year agreement proposed by the railways as unprecedented in the railway industry, pointing out that the agreements have always been for one year.

Strike Begins August 22

In accordance with the announced plans and intentions of the unions, the strike of the non-operating employees represented by the two Canadian and 15 international unions became effective on the morning of August 22, when the employees left their work peacably and with due provision for the protection of railway property, as agreed on previously by union and railway representatives. According to an Ottawa dispatch of August 24, the tie-up represented the first complete stoppage of railway transportation throughout Canada, so far as shown by the records of the Dominion Labour Department. These records disclose a strike of mechanical and car department employees of the C.P.R in 1908, with a total time loss of 440,000 man-days. That strike began August 5 and ended October 12. Another strike, in 1905, in the Montreal and Sarnia mechanical shops (presumably of the G.T.R.), was effective from May 8 to December 31, but fewer employees were involved and the loss of man-days was only 58,000. A strike of C.P.R. conductors and trainmen in 1910 in Ontario and Quebec brought about the loss of 35,000 man-days. There have been other smaller strikes in Canadian railway service, the despatch said, but nothing to compare with the complete tie-up in the strike which began August 22.

Dominion Government Action

While naturally the Dominion Government was greatly concerned with the dislocation of industry and loss and inconvenience for the public occasioned by the strike, it kept its own counsel in regard to its intentions for several days after the strike began, and newspaper reports as to Government intentions were necessarily confined to conjecture. However, on August 24 it was announced that a special session of Parliament had been called for 3 p.m. on Tuesday, August 29, and Transport Minister Chevrier was quoted as saying that special planes would be employed where required to bring members of Parliament to Ottawa in time for the opening of the session. No indication was given as to the Government's intention in the way of legislation.

Statements by Unions

Following the final breakdown of negotiations preceding the beginning of the strike, Messrs. Hall and Mosher mailed to union members a report which states as follows:—"Failure of the talks to bring about an agreement was by no means the fault of the mediator, who was a very able and conscientious man.

"It was evident, however, that in the mind of the Government and of Dr. Mackintosh the term 'mediator'

was synonomous with the word 'compromise."

"As a result of the many hours of discussions and argument, there had been changes in the respective positions of the parties. The railways had agreed to set a date for making the five-day, 40-hour week pay for 48 hours effective. Originally they had apparently been thinking in terms of two, three or perhaps four years, but finally came down to an effective date of Oct. 1, 1951, with provision for an additional 'transitional period' of nine months from October 1, 1951, during which there should be no penalty overtime up to 48 hours per week.

"It seemed to our committees that this latter provision, under certain circumstances might actually have the effect of nullifying the reduced hours of work. However, knowing that our members were primarily interested in a definite effective date for implementation of the five-day, 40-hour week, we made concessions as to the effective date, but rejected the nine months' transition period.

"No agreement could be reached on the effective date, and the same was the case regarding the amount of wage increase, the railways' final offer being four cents an hour, effective Sept. 1, 1950, on a graduated basis, which means that some employees would get more than four cents and others less, or even nothing.

"The committees were prepared to make concessions on the amount of increases and effective date, but the railways' offer was tied up with a proposed three-year contract, during which it was proposed by them that we would be protected against higher living costs by a bonus of two-thirds of a cent per hour for each one percent. rise in the cost of living index dating from Oct. 1, 1951.

"Our views were that a three-year contract was too long — we were agreeable to a two-year contract—and that the proposed amount of the bonus was not high enough. We voiced the view that the three year proposition would enable the railways to make vast profit over a long period, in which the employees would be unable to share."

Statement by Railways

A statement on behalf of the railways, following the breakdown of negotiations and the beginning of the strike, said:—"It should be clear that in setting tentatively before the mediator the terms of a three-year contract the railways have never lost sight of the firm offer made by them on August 10.

"It will be recalled that this offer contained, in addition to a choice between the 44-hour week with take-home pay maintained and an average eight and one-half cent wage increase for their present hours, the railways' acceptance of a moral obligation to introduce the 40-hour week at the appropriate time.

"It was evident that having regard to the prevailing pattern of working hours in other industries served by the railways and to the very substantial costs involved, the 'appropriate time' could not lie within a contract period of one year, and it should be pointed out that unless agreement is made to the contrary the unions are free to make further demands upon the railways after that time.

"However, during discussions with the unions and subsequently with the mediator, the railways were strongly pressed to specify a definite date for introducing the 40-hour week. In an effort to meet this point the railways indicated their willingness to discuss the possibility of entering into a three-year contract, this being the minimum period within which the introduction of a 40-hour week could be accepted as an integral part of an agreement to settle this dispute.

"The outline of the three-year contract put before the mediator was therefore wholly consistent with the final offers made by the railways on August 10 for a one-year contract, and cannot be regarded as superseding these proposals in any sense.

"In drafting a long-term contract at the suggestion of the mediator it was realized that the employees would expect to secure some form of protection against increases in the cost of living during the three year period in which contracts would remain closed, and our inclusion of a cost of living clause was specifically and exclusively tied to a contract of this duration.

Objection to 2-Year Contract

"The unions however sought to obtain a far more expensive cost of living clause and the 40-hour week within a two-year contract. A two-year contract would mean that on September 1, 1952, the unions would be free to press any other demands which might seem expedient to them at that time. In addition there are very significant differences between the railways and the unions in the matter of an immediate wage increase, treatment of hotel and water transport employees, working rules etc.

"It is not possible to present a brief and clear-cut comparison between the costs implied in the unions' proposed two-year contract and the three-year contract outlined by the railways, but under any reasonable assumptions there would be a vast difference in expense. The railways felt that they could not agree to the unions' demands in exchange for only two years of stability in contractual relationships with their employees."

Final Effort by Prime Minister To Secure Agreement

On August 24, Prime Minister St. Laurent, in a final effort to secure agreement between the railways and the unions before the beginning of the Parliamentary emergency session, invited the railway presidents and union leaders to meet him and other members of the government in Ottawa on the following day, in separate conferences. The invitations were accepted, and arrangements were made for a meeting with Messrs. Hall and Mosher on the morning of August 25, and with Messrs. Gordon and Mather in the afternoon, with the Prime Minister, Labor Minister Gregg and Transport Minister Chevrier present. These meetings were held, and resulted in arrangements for further conferences between the union leaders and railway presidents. Such conferences were held, with the final one on the evening of Saturday, August 26, but the securing of agreement was found impossible. Both the railways and unions then issued statements.

August 26 Statement on behalf of Railways

Following the collapse of negotiations on the evening of August 26 a statement issued by the railways said:—"Conscious as they were of the disastrous effect of a railway strike not only upon the domestic economy of Canada, but upon the grave international situation of the country, the railway managements, in the discussions before the mediator appointed by the government, Dr. A. W. Mackintosh, went to the utmost length prudence would permit, in their efforts to avert a strike.

"The strike having taken place the employees' representatives and the managements were urged by the Prime Minister to make another effort to reach agreement in the full realization that a continuance of the strike would cause grave hardship to the people of Canada and seriously impede the fulfillment of Canada's obligations under the United Nations charter and the North Atlantic pact.

"Many meetings have since been held, and while a solution has been earnestly sought for by the managements none has been found, which, in their best judgment, can be justified to the Canadian people, by whom the burden of satisfying the demands of the employees must ultimately be borne.

"The question posed to the Canadian people is whether the carefully weighed recommendation of a properly constituted conciliation tribunal is to be completely disregarded, every suggestion of compromise to be rejected, and the terms on which the men emerged in an essential public industry will return to work to be dictated solely by them.

"Confronted with this question the railway managements believe as the Prime Minister said in his statement of August 22, that the representatives of all the people should act together in discharging their responsibilities to meet the situation.

"The renewed negotiations between railway management and the negotiating committee representing the unions which were resumed on Friday

and Saturday at the specific request of the Prime Minister again ended in a stalemate at 7:30 this evening.

"The railways made a firm offer of settlement as follows:

"**Four cents per hour** wage increase to be effective Sept. 1, 1950.

"**A five-day 40-hour week** to begin Sept. 1, 1951.

"**A two-year contract** to run from Sept. 1, 1950.

"**An agreement along lines** indicated by the negotiating committee as satisfactory, to negotiate amendments in certain rules.

"**A clause dealing with** payment of straight time up to 48 hours a week in the event of a national emergency.

"**Hotel and water** transport workers to be covered in a separate contract for one year, to be granted an increase of two cents per hour, effective Sept. 1, 1950.

"The negotiating committees rejected this offer on the following points:

"**A seven cents per hour** wage increase effective June 1, 1950.

"**A five-day 40-hour week** effective June 1, 1951, with a three months' transitional period during which straight time would be payable up to 48 hours a week, and insistence upon the inclusion of hotel and water transport employees in any agreement.

"As a possible alternative, they proposed a two-year contract with a five cents per hour wage increase, retroactive to Jan. 1, 1950, provided a cost-of-living bonus clause was made effective at once granting a one cent per hour wage increase for each one point rise in the cost-of-living index.

"This alternative was unacceptable to the railways."

August 26 Statement on behalf of Unions

Following the breakdown of negotiations on the evening of August 26, a statement on behalf of the unions was issued, as follows:—

"These 17 unions, 15 international and two national, served notice on the railways as far back as June 16, 1949, looking to the establishment of the five-day, 40-hour week and wage increases of seven cents per hour.

"Negotiations and various proceedings subsequent thereto failed to bring about a settlement. The employees took a strike vote and, pursuant thereto, withdrew from the service legally and peacefully.

"**Within the past two days** and at the instance and request of the Prime Minister, the unions agreed to reopen discussions with the railways.

"These have now been terminated without results.

"During the discussions and in the interests of reaching a settlement and restoring railway operations, the unions made substantial concessions, pointing out that 14 months had already gone by during which the position of the employees continued to deteriorate.

"The unions, nevertheless, modified their demands. They offered to accept a seven-cents-an-hour wage increase as of June 1, 1950, instead of July 6, 1949, and to project the application of the five-day, 40-hour week as far ahead as June 1, 1951, and added to that a three-month transition period during which straight time would be payable up to 48 hours per week.

"**A proposed alternative** was that there be a two-year contract with a five-cents-per-hour increase retroactive to Jan. 1, 1950, with a cost-of-living provision effective immediately, under which there would be a one-cent-per-hour increase for each point rise in the cost-of-living index.

"All of this went much further than had ever been contemplated by the employees, and gives the railways several months in which to continue to enjoy the returns from the higher freight rates they now have and from the extremely high level of business.

"Earnings for the first six months of this year already reflect a highly satisfactory state of affairs.

"From the outset of these proceedings the railways have greatly exaggerated the alleged costs of the employees' request and their impact on the country's economy.

"**In these more recent** negotiations, held at the request of the Prime Minister, the railways have quite obviously been more interested in jockeying for position than to effect a fair settlement.

"This is more apparent from the fact that at the last meeting, just concluded, they already had a public statement prepared, setting forth their position although negotiations had not been broken off.

"We are sure the employees will support the position of their representatives and will carry on the fight for a just settlement. The railways have not at any time denied they are financially able to meet the request of their employees."

Supplementary Statement by Railways

A further statement issued on behalf of the railways said:—

"In their statement issued Saturday evening, the railways outlined the reasons which had led them regretfully to the conclusion that a stalemate had been reached in the negotiations, namely, that their firm and fair offers had been rejected by the unions' negotiating committees.

The railways went to the Saturday evening meeting hopeful that a new attitude would be shown by the unions, but were prepared to make the facts known to the public if these hopes were not fulfilled. The railways did not break off the discussions 'abruptly and unceremoniously,' as Mr. Hall alleges.

"The accuracy of the charge that 'the railways were jockeying for position rather than seeking a settlement' can be judged best by the public in the light of the many concessions, over and above those considered fair by the conciliation boards, the railways have offered in their efforts to satisfy the unions."

Emergency Session of Parliament Called

With the strike continuing and with the railway managements and union heads evidently unable to reach agreement, and with the country experiencing huge losses and with more and more men being thrown out of work, the Dominion Government called a special session of Parliament for August 29, and arranged for air transportation for members of Parliament from far distant points. With Parliament assembled, the Prime Minister, Mr. St. Laurent, introduced in the Commons, on the evening of August 29, a bill to provide for "The Maintenance of Railway Operations Act". As introduced, the bill called on the railways to resume operation within 48 hours of the coming into effect of the act, and called for every employee on strike to return to his duties within the same time limit. It undertook to increase the wages of the striking employees, until final agreement is reached, by four cents an hour. It directed the railways and unions to get busy in an effort to reach final agreement, and prescribed that in the event of failure to reach agreement within 15 days of the coming into effect of the act, the railways and unions are to agree upon an arbitrator to decide the points at issue, with the government reserving the right to name an arbitrator to decide the matters in disagreement in the event of the railways and unions failing to agree on one.

Exact Wording of Bill

Following is the text of the government bill as introduced in the Commons on August 29:—

"Bill 1.—An act to provide for the resumption of operations of railways and for the settlement of the existing dispute with respect to terms and conditions of employment between railway companies and their employes.

"Whereas the operation of railways and subsidiary services serving the country as a whole has been suspended by reason of a failure of the railway companies and the bargaining agents of non-operating and certain other employees of the companies to reach agreement as to certain terms and conditions of employment;

"And whereas the vital interests of the people of Canada and the welfare and security of the nation are imperilled by the suspension of operation of the railways, particularly in existing international conditions;

"And whereas the railway companies and the bargaining agents of the employees appear to have agreed that existing wage rates should be increased, and the 40-hour week introduced, but appear to have been unable to agree as to the amount

and effective date of the wage increase or the date at which the 40-hour week would be effective and the terms and conditions upon which it would be introduced;

"And whereas it is essential to protect the interests of the people of Canada and the welfare and security of the nation that operation of the railways be resumed immediately and that for this purpose provision be made for provisional terms and conditions of employment of employees and for the final settlement thereof;

"Now, therefore, His Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:

"1. This act may be cited as the Maintenance of Railway Operations Act.

"2. Within 48 hours after the commencement of this act every railway company shall resume operation of the railway and subsidiary services the operation of which is suspended by reason of the strike now existing and every employee who is now on strike shall return to the duties of his employment with the railway company by which he is employed.

"2. The terms of each collective agreement to which this act applies are provisionally amended forthwith by increasing by four cents per hour each rate of wages established by or pursuant to the agreement.

"4. (1) Subject to amendment of its terms and conditions in accordance with this act, the term of each collective agreement to which this act applies is extended to include the period beginning on the commencement of this act and ending on the day on which a new collective agreement entered into between the parties thereto in amendment or revision thereof comes into effect, or on which the arbitrator by a decision under this act fixes the terms of a collective agreement to be entered into in amendment or revision thereof, whichever is the earlier.

"(2) The terms and conditions of a collective agreement mentioned in Subsection 1, amended as provided in this act, shall be effective and binding on the parties thereto for the period therein mentioned notwithstanding anything contained in the Industrial Relations and Disputes Investigation Act or in the agreement and that act shall apply in respect of the agreement as so amended as if the period during which the agreement was extended by this section were the term of the agreement.

"5. (1) If within 15 days after the commencement of this act, or such longer period as may be fixed by the governor in council at the joint request of a railway company and a union, agreement has not been reached between them either as to the terms of a collective agreement in revision or amendment of a collective agreement to which this act applies or as to an arbitrator to decide such terms, the governor in council shall appoint an arbitrator to decide all matters not then agreed upon between them that appear to the arbitrator necessary to be decided for conclusion of such a collective agreement, including the fixing of a term during which the collective agreement shall operate and, subject to Subsection 2, the fixing of a day or days, whether before or after the decision of the arbitrator to which the terms of the collective agreement may be retroactive.

"(2) The arbitrator shall, with all convenient dispatch, determine and decide from time to time the matters that have not been agreed upon metioned in Subsection 1, and if the arbitrator decides that rates of wages fixed by or pursuant to a collective agreement to which this act applies shall be increased other than by reason of a reduction in the number of hours of work required to be performed each week, the increased rates of wages shall be retroactive to a day not later than the day on which the employees return to work pursuant to this act.

"(3) Where the arbitrator has decided any matter not agreed upon between a railway company and a union mentioned in Subsection 1, the railway company and the union shall give effect to the decision and shall conclude a collective agreement for that purpose and until they do so the collective agreement to which this act applies to which they are parties shall be deemed for the purposes of the Industrial Relations and Disputes Investigation Act to have been amended, mutatlis mutandis, to give effect to the decision and to have effect, notwithstanding anything in that act, for the term fixed by the arbitrator, but nothing in this section shall be deemed to limit or restrict the rights of parties to the agreement to agree to vary or amend any of the terms of the agreement as so amended and to give effect thereto.

"(4) The arbitrator may establish the procedure to be followed for the purposes of the arbitration.

"(5) The arbitrator shall, for the purposes of the arbitration, have all the powers conferred on a conciliation board under Sections 33 and 34 of the Industrial Relations and Disputes Investigation Act for the purpose of conciliation proceedings.

"6. No person acting on behalf of a railway company shall refuse to permit, or authorize or direct another person to refuse to permit an employee who has gone on strike before the commencement of this act to return to the performance of the duties of his employment with the railway company, or discharge or authorize or direct another person to discharge such an employee by reason of the employee having gone on strike.

"7. Each person who at the beginning of the strike of employees now existing was authorized on behalf of a union to bargain collectively with a railway company for the revision or amendment of a collective agreement to which this act applies, shall forthwith give notice to the members of the union that any declaration, authorization or direction to go on strike, declared, authorized or given to them before the commencement of this act has become invalid by reason of the coming into force of this act.

"8. In this act

"(a) 'Arbitrator' means an arbitrator appointed under Section 5;

"(b) 'Collective agreement to which this act applies' means a collective agreement between a railway company and a union the revision or amendment of which was the subject of negotiations between the railway company and the union on the 21st day of August, 1950, under the provisions of the Industrial Relations and Disputes Investigation Act.

"(c) 'Employee' means an employee of a railway company bound by a collective agreement to which this act applies, or on whose behalf such a collective agreement has been entered into between the railway company and a union representing the employee;

"(d) 'Railway company' means a company, commission or association listed in Schedule A;

"(e) 'Union' means a trade union listed in Schedule B, and

"(f) Other words and expressions have the same meaning as in the Industrial Relations and Disputes Investigation Act."

Schedule "A" to the bill gave the names of the employers affected, as follows:—Canadian Pacific Railway Co.; Dominion Atlantic Railway Co., Esquimalt & Nanaimo Railway Co., Quebec Central Railway Co.; Canadian Pacific Express Co.; Eastern Abattoirs Ltd., Montreal; New Brunswick Cold Storage Co. Ltd., Saint John, N.B.

Canadian National Railways; Canadian National Railway Co.; Montreal & Southern Counties Railway Co.; Niagara, St. Catharines & Toronto Railway Co.; Thousand Islands Railway Co.; Canadian National Telegraph Co.; Canadian National Steamship Co.; Canadian National Transportation Ltd., Port Arthur, Ont.

Northern Alberta Railway Co., Montreal Stockyards Co.; Toronto Terminals Railway Co.; The Public Markets Ltd., St. Boniface, Man.; Ontario Northland Transportation Commission; The Toronto, Hamilton and Buffalo Railway Co.; The Railway Association of Canada; Vancouver Hotel Co. Ltd.

Schedule "B" to the bill gave the names of the unions concerned, as set forth earlier in this article.

Proceedings in Parliament

Discussion of the bill throughout was marked by all concerned expressing strong disapproval of compulsory arbitration. Although, as seen, the bill provides for compulsory arbitration in the event of the railways and

unions failing to secure final agreement, nobody seemed to wish to admit it. The discussion had not proceeded far when the leader of the Progressive Conservative opposition, Mr. Drew, introduced an amendment calling for the appointment of a national administrator to operate the railways until the attainment of a solution in the dispute. He said that his party favored all sections of the bill except No. 5, which introduced the compulsory arbitration feature. S. Knowles, C.C.F., moved a sub-amendment to provide that the administrator proposed by Mr. Drew be instructed to immediately grant the striking employees the best terms which the railways had offered. The sub-amendment was defeated by 229 votes to 13, and the Drew amendment by 186 to 56. In following discussion, Mr. Drew declared that section 5 of the bill definitely and without any reservation provided for compulsory arbitration. He recalled that Mr. St. Laurent had said earlier in the debate that it was not compulsory arbitration in the ordinary sense, but that he (Mr. Drew) did not understand the reservation.

An amendment was adopted to give the railways and employees 30 days, instead of 15, to come to agreement.

Discussion continued over a long period, and the bill did not receive third reading in the Commons until 7.15 p.m., August 30. It was then sent to the Senate, where there were further expressions of disapproval of compulsory arbitration, but the bill, with its section 5 intact, received final Senate approval, and was returned to the Commons.

However, before the bill was finally passed by the Commons, a concession was made by the Government in the form of an amendment to restrict the powers of the arbitrator, by directing him to award the unions nothing less than the last offer made on behalf of the railways, which means that the 40-hour week is to be established not later than September 1, 1951. The bill as orginally introduced provided for an immediate wage increase of four cents an hour and for the inclusion of the water transport and hotel employees in the prospective new agreements.

Shortly before 10 p.m. on August 31, Mr. Justice Kerwin, on behalf of the Governor-General, gave royal assent to the act, and within 15 minutes the union leaders were taking steps to direct the employees to return to their railway duties. Service was resumed with the minimum of delay.

The union leaders, Messrs. Hall and Mosher, were extended the use of the CBC radio facilities to transmit their directions to the employees to resume their employment. Mr. Hall concluded his statement by saying:—"And let there be no bitterness to corrode our hearts. We know that you will give your services honestly and ungrudgingly as you always have done."

Mr. Mosher concluded his statement by saying:—"Our devotion to duty must be of a character that will maintain our noble traditions, and help overcome, so far as may be possible, any loss sustained by the railways, or by the people of Canada, as a result of the strike."

Transportation Appointments

The informaton under this head, which is gathered almost entirely from official sources, is compiled with the greatest care, so as to ensure accuracy. Anyone who may notice any error in the announcements will confer a favor by advising the Editor.

Canadian Maritime Commission

MISS LORRAINE H. GOUGEON, previously Private Secretary to the Minister of Transport, has been appointed Secretary of the Canadian Maritime Commission, according to recent joint announcement by the Civil Service Commission and the Minister of Transport.

Canadian National Railways

T. C. COLLINSON, previously Temporary Diesel Road Foreman of Engines, Montreal, has been appointed Division Master Mechanic, Montreal Terminals and St. Jerome divisions, Montreal, succeeding R. L. Hosley, transferred.

R. COVEY, previously General Yardmaster, Kamloops Jct., has been appointed Assistant Superintendent, Hanna, Alta., succeeding G. Keefe, appointed Assistant Superintendent, Portage-Brandon Division.

A. D. FISET, previously Locomotive Engineer out of Winnipeg, has been appointed Road Foreman of Engines, Portage-Brandon Division, with headquarters at Winnipeg, succeeding F. Haldane, transferred.

J. O. HEALEY, previously Superintendent, Regina Division, has been appointed General Superintendent, Saskatchewan District, with headquarters at Saskatoon, succeeding M. D. Thompson, retired after many years of faithful service.

R. L. HOSLEY, previously Division Master Mechanic, Montreal Terminals and St. Jerome divisions, Montreal, has been appointed Division Master Mechanic with jurisdiction over subdivisions east and south of Montreal, and with headquarters at Richmond, Que., succeeding T. D. Shipman, retired on pension after many years of faithful service.



M. E. Doke,
Passenger Traffic Manager, Central Region, C.N.R., Toronto, whose appointment to this position was recorded in our June issue, pg. 310.

G. KEEFE, previously Trainmaster, Hanna, Alta., has been appointed Assistant Superintendent, Portage-Brandon Division, Winnipeg, succeeding A. C. Nicholls, promoted.

E. P. KERVIN, previously Boilermaker, Moncton, N.B., has been appointed District Boiler Inspector, Newfoundland District, with headquarters at St. John's, Nfld.

I. S. KILLAM, previously Travelling Passenger Agent, Moncton, N.B., has been appointed Chief Clerk to the General Passenger Agent there.



G. D. Pogue,
Assistant Superintendent, Trenton Division, C.P.R., Smiths Falls, Ont., whose appointment to this position was recorded in our June issue, pg. 311.

W. L. LOWTHER, previously General Agent, Moncton, N.B., has been appointed General Baggage and Mail Agent, Atlantic Region, with headquarters at Moncton, succeeding W. W. Somers, retired.

A. C. NICHOLS, previously Assistant Superintendent, Portage-Brandon Division, Winnipeg, has been appointed Superintendent, Regina Division, succeeding J. O. Healey, promoted.

G. A. TRITES, previously Rate Clerk in the office of the General Passenger Agent, Moncton, N.B., has been appointed Travelling Passenger Agent, with headquarters in that city.

L. W. WALKER, previously Chief Clerk in General Passenger Agent's office, has been appointed General Agent, Passenger Department, Moncton, N. B.

T. N. WALSH, previously Superintendent of the Temiscouata Ry., has been appointed Assistant Superintendent of the new Temiscouata Subdivision, this appointment being consequent upon the incorporation of the former Temiscouata Ry. into the C.N.R. system. Headquarters, Riviere du Loup, Que.

Canadian National Rys.—Grand Trunk Western Rd.

S. EMBERG, previously General Clerk to Freight Traffic Manager, has been appointed Chief Clerk to Freight Traffic Manager, Chicago.

Canadian Pacific Railway

G. CLARK, previously Carman and Relieving Assistant Foreman, Sortin, Que., has been appointed Assistant Car Foreman, Glen Yard.

J. E. DUPONT, previously Passenger Agent, City Ticket Office, Montreal, has been appointed Supervisor, Windsor Station Ticket Office, Montreal, succeeding T. W. Quinn.

ROMEO DUPONT, City Ticket Agent, Montreal, has been appointed Passenger Agent, City Ticket Office, Montreal, succeeding J. E. Dupont.

E. FORGET, previously Assistant Car Foreman, Hochelaga, has been appointed Assistant Car Foreman at the new St. Luc Yard, near Montreal, a new position.

A. GIRARD, previously Carman and Relieving Assistant Car Foreman, Outremont, has been appointed Assistant Car Foreman at the new St. Luc Yard, near Montreal, a new position.

G. GRAVES, previously Car Foreman, St. Luc Yard, has been appointed Car Foreman, Place Viger, succeeding R. W. Small.

H. HAMILL, previously Assistant Car Foreman, Place Viger, Montreal, has been appointed Car Foreman at the new St. Luc Yard, near Montreal.

F. T. JARVIS, previously Assistant Chief Clerk to the Vice President, has been appointed Chief Clerk to the Vice President, Montreal, succeeding M. T. Biette, retired on pension.

C. A. JENNINGS, previously Depot Ticket Agent, Passenger Department, Toronto, has been appointed Ticket Agent, Windsor Station, Montreal, succeeding V. E. Bishop, retired on pension.

H. P. KELLY, previously Assistant Foreman, Glen Yard, has been appointed Car Foreman, St. Luc Yard, succeeding G. Graves, transferred.

J. R. McATEER, previously Carman, Kenora, has been appointed Night Car Foreman, Ignace, a new position.

E. R. MARK has been appointed No. 3 Shop Foreman, Ignace, Ont.

HORACE MERRICK, previously Passenger Agent on the staff of the General Agent, Passenger Department, Montreal, has been appointed Passenger Agent, Windsor Station, Montreal, succeeding M. Roch.

G. W. MILLER, previously Assistant Engineer, Maintenance of Way, has been appointed Engineer, Maintenance of Way, Eastern Region, Toronto, succeeding A. O. Wolff, retired.

K. G. MURISON, previously Inspector, Investigation Department, Winnipeg, has been appointed Inspector, Moose Jaw, succeeding T. M. Sutherland, appointed Inspector at Winnipeg.

A. E. PAYNE, previously Relieving Assistant Car Foreman and Carman, Outremont, Que., has been appointed Assistant Car Foreman, Place Viger, Montreal, succeeding H. Hamill, transferred.

O. J. QUALE, previously Machinist, Weyburn, Sask., has been appointed Night Locomotive Foreman there, a new position.

T. W. QUINN, previously Supervisor, Windsor Station Ticket Office, Montreal, has been appointed Assistant Agent, Passenger Department, Windsor Station Ticket Office.

J. J. RABY has been appointed Division Master Mechanic, Kenora Division, with headquarters at Kenora.

G. W. REDDON, previously Machinist, Kentville, has been appointed Night Chargeman there, succeeding P. R. Young.

C. V. ROBINSON, previously Travelling Passenger Agent on the staff of the District Passenger Agent, Montreal, has been appointed Passenger Agent, on the staff of the General Agent, Passenger Department, Montreal, succeeding H. Merrick.

MAURICE ROCH, previously Passenger Agent, Windsor Station, Montreal, has been appointed Travelling Passenger Agent.

R. W. SMALL, previously Car Foreman, Place Viger, Montreal, has been appointed Car Foreman at the new St. Luc Yard, near Montreal, a new position.

E. L. SULLIVAN, previously Assistant Depot Agent, Passenger Department, Windsor Station, Montreal, has been appointed City Ticket Agent, St. James Street office, in that city.

T. M. SUTHERLAND, previously Inspector, Investigation Department, Moose Jaw, Sask., has been appointed Inspector, Winnipeg, succeeding K. G. Murison, appointed Inspector, Moose Jaw.

L. M. WILKINSON, previously Passenger Agent, Toronto, has been appointed Depot Ticket Agent there, succeeding C. A. Jennings.

P. R. YOUNG, previously Night Chargeman, Kentville, has been appointed Assistant Locomotive Foreman there, succeeding R. S. McGill, retired.

Department of Transport

H. D. CAMERON, previously Executive Assistant to the Director of Air Services, has been appointed Private Secretary to the Minister, Hon. L. Chevrier.

S. S. FOLEY, M.B.E., previously District Controller of Air Services for the Maritimes, has been appointed District Controller of Air Services, Toronto, succeeding J. R. Robertson, M.B.E.

J. R. ROBERTSON, M.B.E., previously Controller of Air Services, Toronto, has been appointed Superintendent of Airways and Airports, Ottawa, succeeding Major Robert Dodds, O.B.E., M.C., appointed Controller of Civil Aviation.

Minneapolis, St. Paul and Sault Ste. Marie Rd.

J. D. BOND, previously Assistant to Vice-President and General Manager, has been appointed Assistant to the President, succeeding J. C. Peterson, resigned.

Toronto, Hamilton and Buffalo Ry.

J. M. BURNS, previously District Freight Agent, Buffalo, N.Y., has been appointed District Freight Agent, Pittsburgh, Pa., succeeding H. G. Beitel, retired under the pension rules after more than 31 years of faithful and efficient service.

H. A. CALDER has been appointed District Freight Agent, Port Colborne and Welland, succeeding W. Malcolm, retired under the pension rules after more than 36 years of faithful and efficient service.

R. H. HAMPSON has been appointed District Freight Agent, Buffalo, N.Y., succeeding J. M. Burns, promoted.

Railway Freight Traffic

March Traffic

The tonnage of revenue freight loaded on Canadian railways and received by them from foreign connections in March this year, and in that month in 1949 and 1948, was:—

Province	March, 1950	March 1949	March 1948
Newfoundland	50,969	...	...
P.E.I.	38,795	29,688	32,544
Nova Scotia	891,734	752,604	830,325
New Brunswick	457,048	487,681	628,412
Quebec	2,021,793	1,919,263	2,504,302
Ontario	5,117,396	5,386,099	6,091,037
Manitoba	427,804	509,431	486,076
Saskatchewan	632,985	859,126	712,044
Alberta	1,231,200	1,285,319	1,067,867
British Columbia	907,598	882,469	890,069
Total for Canada	11,777,322	12,111,680	13,242,676

The products were as follows, in tons:—

Agricultural	2,009,112	2,357,968	2,030,792
Animal	188,194	197,450	225,282
Mine	4,137,834	3,774,984	4,468,254
Forest	1,443,941	1,723,746	2,184,166
Manufacturers & Miscellaneous	3,998,241	4,057,532	4,334,182
Grand Total	11,777,322	12,111,680	13,242,676

The total of 11,777,322 tons of revenue freight moved in March this year represented a decrease of 334,358 tons from the total handled in March, 1949, a reduction of 2.8%. The decline was due mainly to reduced wheat and pulpwood shipments. The Newfoundland freight volume was 50,969 tons in March this year, and as the Newfoundland figures were not included in those for March last year, the reduction in freight tonnage in the other nine provinces was actually 385,327. While the freight tonnage moved in the month this year was lighter in the agricultural products and forest products groups increases were recorded in the animals and animal products, mine products and manufactures and miscellaneous groups.

Rolling Stock Orders And Deliveries

Canadian National Rys.—Official advice of August 18 was that National Steel Car Corp., Ltd., had completed delivery of the C.N.R. order for 50 baggage cars. The advice also confirmed the item in our August issue, pg. 433, to the effect that the C.N.R. had ordered 22 88 h.p. Diesel-electric switching locomotives from General Motors Diesel, Ltd., London, Ont. It also confirmed the August issue item to the effect that the C.N.R. had received three electric locomotives of General Electric Co. manufacture for service in the Montreal Terminal area.

Canadian Pacific Ry Co.—National Steel Car Corp., Ltd., delivered 200 50-ton overhead tank refrigerator cars to the C.P.R. in the period July 18-August 15, completing order.

Recent official advice confirms the accuracy of the press report mentioned in our August issue to the effect that the C.P.R. had ordered 700 50-ton, all-steel box cars from National Steel Car Corp., Ltd.

Railway Strike in U. S. Averted

A coast-to-coast tie-up of railway facilities in the United States, involving cessation of work by 1,700,000 employees because of a dispute of some 300,000 conductors and trainmen with the railways, was headed off by prompt governmental seizure and army control of the roads, by presidential order.

The dispute between the railway managements in the United States, and their employees represented by the order of Railway Conductors and the Brotherhood of Railroad Trainmen, consequent upon the demand of the employees for the 40-hour week without reduction in take-home pay, plus a wage increase, did not secure settlement by direct negotiation, and a strike was scheduled to begin at 6 a.m. August 28. Had the strike materialized, railway service in the United States would have come to a standstill, as approximately 300,000 employees involved in the dispute, by leaving their work, would have tied up railway transportation throughout the United States and thrown an additional 1,400,000 railway employees out of work.

However, the strike did not materialize, as President Truman, acting to prevent a national emergency, ordered the U.S. Army Secretary to take over the railways at 5 p.m. August 27 and operate them in the name of the United States Government. Employees in an industry thus taken over by the government immediately assume the status of soldiers.

Following the issuance of the executive order by the president, the unions issued the following statement:—"The men we represent will work for the government gladly under government operation of the railroads during this period of crisis until this dispute can be settled on its merits through mediation.

"The strike instructions issued August 23 are postponed indefinitely."

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The Railway Strike

In the month since our August issue appeared, Canada has experienced its first nation-wide railway strike, to the accompaniment of oceans of loose talk and loose thinking. To those within the railway industry, the views expressed by many people outside of the industry must have appeared very extraordinary. In some expressions of opinion, the union leaders were pictured as arrogant beyond belief; in others, one would think that they were criminals for sanctioning the strike, despite the fact that there was nothing whatever illegal in their action. On the contrary, other opinions appeared to be to the effect that the railways have been trying to victimize their non-operating employees and deny them anything approaching decent wages and working conditions. No doubt the majority of these views were expressed by people who know nothing of conditions within the railway industry, and who do not even remotely suspect that the relations between the railways and their non-operating employees are covered by more than 80 separate contracts.

A matter of passing interest to us in reading newspaper comment on the strike was the evident lack of information on the differences in the earnings of the various classes of railway employees, and on more than one occasion we noted where regret was expressed that precise figures recording the earnings of employees could not be stated. This lack of information is somewhat surprising in view of the fact that precise figures are fully available, and have been published in this journal once each year over many years. The latest figures, those for 1948, appeared in our February issue, beginning on pg. 71. However, while figures like these are of great interest within the industry, it is probably fortunate that their availability is not generally known and that they were not displayed to any important extent before the public during the strike. After all, the general public has no information on the hazards involved, the responsibilities assumed and the discomforts endured by individual classes of railway employees, and in the absence of this information widespread publication of figures of hourly and annual earnings of the various classes of railway employees certainly would have served no useful object.

To the conflict of opinion as to who was responsible for the strike, the railways or the employees, may be added the observation that neither was responsible for it, and that the strike was simply the result of a conflict of honest opinions as held by the railway managements on the one hand and by the employees on the other.

Great Contrast in Canadian and U.S. Experience.—The great outstanding feature of railway industry experience in the last two weeks of August was the contrast as between events in the United States and those in Canada. In the United States, a strike had been called which would have tied up the railways from coast to coast, because of failure to settle the dispute between the conductors and trainmen, on the one hand, and the railways on the other. The strike was quickly headed off by President Truman issuing a decree by which the railways were taken over by the government and handed to the army for operation. In Canada, on the other hand, there was no machinery to head off a strike, with the result that the strike materialized, with consequent great loss to the railways, to their employees and to the public.

It would seem, therefore, that the responsiblity for the strike in Canada must rest upon the long succession of politicians at national level who, in the 83 years which have elapsed from Confederation to the present time, have failed to take measures to avoid a national calamity of the type which Canada has experienced and the United States has escaped.

What of the Future?—In this issue we have a fairly complete review of the events in connection with the strike and with the emergency session of Parliament which was necessary for its termination. As recorded, the act which Parliament has so hurriedly passed provides for compulsory arbitration in the event of the railways and their non-operating employees being unable to come to final agreement. In the debate preceding the passage of the act, the backing away and side-stepping as regards this feature was really something to behold. The traditional attitude of labor to compulsory arbitration of disputes is well known; it wants no part of the procedure. But, on the other hand, it is only common sense to realize that there must be finality in a labor-management dispute involving such an important factor in the national life as the railway service. Also, it is only common sense to realize that it is better to have that finality secured before railway service is disrupted, rather than after.

In the United States, railway management appears to have come reluctantly to the opinion that compulsory arbitration and the prohibition of strikes and lockouts will supply the only satisfactory method of disposing of labor-management disputes in the railway industry. This is disclosed by an article elsewhere in this issue, recording the testimony of a railway management witness before a committee of the U.S. Senate on Interstate and Foreign Commerce. What importance the U.S. lawmakers attach to this testimony remains for future determination.

In Canada, Parliament at its present emergency sesson has made no move to the time of writing, so far as we are aware, to provide for a future situation similar to that of the recent past. The act which has been passed provides only for settlement of the recent dispute. Conceivably, in a few weeks there could be another dispute resulting in another strike necessitating another emergency session of Parliament.

Under these conditions, the people of Canada have justification for expecting the Dominion Government and Parliament to provide safeguards against a repetition of the unfortunate experience of the recent past. The problem is a difficult one, evidently, on the one hand, the views of Canadians generally and of organized labor particularly against any restriction on free bargaining must be duly considered, while on the other hand the public interest must be served by a realization of the fact that there must be finality in any dispute, and that in some cases, as in the recent one, there may be a measure of compulsion required to secure such finality. But it is reasonable to suppose that the problem is not without solution, and the main thing as we see it is that Parliament should lose no time in facing up to its responsibilities in this regard.

Accountants Hold Very Successful Meeting

The plans for the 56th annual meeting of the Accounting Division of the Association of American Railroads were set forth in our August issue, pg. 430, where it was specified that the meeting was scheduled to be held at the Chateau Laurier, Ottawa, beginning July 31, and that T. H. Cooper, Vice President and Comptroller, Canadian National Rys., was chairman of the committee on arrangements, his fellow-members having been E. A. Leslie, Vice President and Comptroller, C.P.R., H. A. Cresswell, Vice President and Treasurer, Canada Steamship Lines, Ltd., J. C. Lessard, Deputy Minister of Transport, and G. C. Brooks, Auditor of Freight Receipts, C.P.R.



Hon. Stanley Woodward (Left), United States Ambassador to Canada, Chats with the Minister of Transport, Mr. Chevrier (Center), and T. H. Cooper, Vice President and Comptroller, Canadian National Rys. (Right), at the A.A.R. Accounting Division Meeting.

At the initial meeting, Mayor E. A. Bourque of Ottawa welcomed the delegates to the city, and Mr. Cooper outlined the plans for the meeting.

The sessions were under the chairmanship of the 1949-50 chairman of the Division, George F. Glacy, Vice President, Boston and Maine and Maine Central Rds., Boston.

Officers for Ensuing Year. — The Division officers for 1950-51 were elected as follows:— I. V. Jessee, Comptroller, Norfolk and Western Ry., Chairman; J. W. Severs, Vice President, Chicago, Milwaukee, St. Paul and Pacific, First Vice Chairman; Elmer Hart, Comptroller, Pennsylvania Rd., Second Vice Chairman; E. R. Ford, Washington, permanent Secretary. The 1951 meeting is to be held in New York City.

Address by Mr. Glacy.—The retiring chairman, in addressing the meeting, pointed out that the railways, to be physically strong, must be financially strong and in a position to earn enough to purchase equipment they need. He explained that a large volume of traffic is necessary to achieve maximum efficiency, for the reason that a railway is a machine set up and geared for the production of mass transportation. With enough work to do, he said, no other transportation agency can compete with the railway industry in all-round efficiency. Volume of traffic is not enough by itself, however, he added, as the traffic must yield revenues to the railways large enough not only to meet all their costs, but also to produce a fair and reasonable return on the investment.

Efficient operation requires close supervision from management and in this respect the accounting department "is the seeing eye of management in the conduct of its affairs," the retiring chairman said. Individual and corporate blindness may well develop where an inefficient accounting department exists, and without the help and guidance of the department in accurately interpreting the figures, a business enterprise such as a railway would be in a state of near disorganization.

Address by Mr. Chevrier. — The Minister of Transport, Mr. Chevrier, in speaking to the more than 750 delegates on August 1, referred to the fact that Canadian and U.S. railways may again be called upon for tremendous tasks, in view of the uncertainty of the international situation. He said in part:—"I know something of the tremendous task performed by the railways of the United States of America and Canada during the difficult years of the war. Transportation in time of war is the very lifeblood of the nation, circulating from the body into the fighting arm and fist." Then referring to the possibility that in view of the world situation heavy demands may again be made upon the railways, the Minister of Transport added:— "I know of no group in the economy of our two nations more ready and more willing at this time to accept the challenge than the members of these vast organizations."

On the question of freight rates and freight structure, Mr. Chevrier urged the delegates to accept the challenge offered by this problem with a view to making "an invaluable contribution to the solution of the most difficult problem facing the railways today." He summarized the general objective to be aimed at in dealing with the complexities of this problem as minimizing transportation costs and maximizing the opportunities for national devel-

opment, overcoming the handicaps of geography and making the development of our natural resources economically feasible in all sections of the nations.

The Minister described freight rates and the freight rate structure as "the root of the railway problem," and said that the railways should be provided with adequate revenue to be self-supporting. "It may be that a criterion of adequate railway earnings should be a fair return upon prudently invested capital," he stated. "If this be so, then the capital on which earnings should be permitted for rate control must be carefully scrutinized, including the improvident investment and the effect of past subsidies—the object being to establish capital at a realistic figure. At the same time, highway transport should be subject to regulatory control as regards public convenience and necessity in the national transportation interest."

Within such a framework, he said,, it would be necessary to "work out a division of interest between highway and railway transport so that maximum benefits may result," to "maintain the railway industry at a high pitch of efficiency and effectiveness" and to "produce a rate structure which would extend the lowest practical rates to marginal shippers."

Address by Mr. Gordon: — Donald Gordon, C.M.G., Chairman and President, Canadian National Rys., in addressing the meeting on August 2, said that in these testing days, when the very fundamentals of the faith by which we live are under challenge, we should not feel self-conscious about proclaiming our standards and finding virtue in them.

"If we are to fight for them we had best be sure of our code of principles and the understanding of the democratic process," Mr. Gordon continued. "We had best be sure that we have a resolute confidence in these principles and in the institutions by which we live, for they are the rich heritage bequeathed to men of our generation. And we had best be sure that we are not only willing but able to beat the living daylights out of any group of evil men who profess a principle which is aimed at the destruction of that heritage. The paradox constantly before us is that those who love peace must be ready to fight and those who love freedom must accept discipline."

Speaking of the ways in which Canada and the United States differ, Mr. Gordon said that many Britons regard Canada as American, while many Americans consider her to be British. It is true, he said, Canada occasionally has borrowed something from both countries, sometimes blending them to suit her needs. He cited the Canadian Parliament, which, with some moderations, is fashioned after the British.

The difference between Canada and the United States that would immediately occur to an accounting officer, the speaker declared, is the fact that the Canadian and American dollar are not the same thing. Pointing out that the exchange rate between the two currencies has caused many misconceptions, he said: "From my own experience I know that in the United States some store clerks, dining car stewards, and even bank tellers, are inclined to regard anyone who presents Canadian dollar bills with some suspicion. It is evident from the reaction that they look on this perfectly good currency as some kind of stage money, and the bearer is left feeling as guilty as if he had really just finished printing it in his basement. Clearly this is a case where unfamiliarity breeds contempt."

As evidence that Canada's currency is perfectly good, Mr. Gordon outlined the country's vast natural resources and wealth which stand behind its money. He cited Canada's output from farm, forest, mine and hydro-electric plant and put emphasis on the new iron ore fields in Labrador and the rapidly developing oil fields in western Canada. "And someday an economic method will be found for extracting oil from the famous Athabaska tar sands, where, according to U.S. engineers, there are reserves amounting to about 250,000,000,000 barrels, or more than the rest of the world's proven oil reserves," he added.

Turning to the financial field, Mr. Gordon wondered to what extent both Canadians and Americans have adjusted their sights to new measurements which the declining purchasing power of the dollar has produced. "Once it is accepted that a 1950 dollar is not the same unit of measurement as a 1939 dollar, all sorts of complications arise in regard to appropriate depreciation charges, valuation of inventories, financing of pension plans, allowances for insurance and minimum levels of freight rates. I suggest that there is a great need for the accounting profession to get together with the economist and the statistician and see how the record can be made clear on this rather bewildering problem," he concluded.



J. V. Jessee, Comptroller, Norfolk and Western, the New A.A.R. Accounting Division Chairman, Receives the Congratulations of George F. Glacy, Vice President, Boston and Maine and Maine Central, the Retiring Chairman.

Address by Col. Henry.—The Vice President, Public Relations, Association of American Railroads, Col. Robert Henry, outlined the present state of preparedness of the railway industry, if it should be required to again carry out the heavy additional duties brought on by war.

Comparing the railway equipment situation in the United States in 1939, when the second world war broke out, with the favorable present day figures, Col. Henry said that 1,737,000 freight cars were available in 1939 while at the present time there are 1,807,000 of these cars with a carrying capacity nearly 11% above that of 1939. In other respects the situation is even better. The railroads have 12,000 Diesel-electric locomotives that did not exist in 1939, and 1,800 new and better steam locomotives. They have 10,000 miles of new automatic signalling and more than 9,000 miles of new centralized traffic control, as

(Continued on page 502)

Further Increases In Car Loadings

There were 393,326 cars loaded with revenue freight on Canadian railways in the five weeks ended August 12, compared with 364,524 in the corresponding part of 1949, an increase of 28,802.

A continuation of the upward trend in railway freight traffic to August 12 this year is evident in the figures recording the numbers of cars loaded with revenue freight on Canadian railways in the weeks ended July 15, 22 and 29, and August 5 and 12. In each of the weeks in the five-week period this year, an increase over the loadings in the corresponding 1949 week was recorded, and there was an increase of 28,802 cars in the five-week period this year.

Week Ended July 15

Total loadings in the week ended July 15 this year were 78,201 cars, compared with 73,210 in the corresponding 1949 week. Grain loadings increased from 4,017 cars in the week last year to 5,018, but live stock loadings came down from 1,525 cars to 1,394. Coal loadings were down from 4,847 cars in the week last year to 4,657. Loadings of pulpwood increased from 3,597 cars in the week last year to 4,293, and those of lumber, lath and shingles from 3,870 cars to 5,822. Loadings of miscellaneous freight were up from 5,703 cars in the 1949 week to 6,136, but those of merchandise, l.c.l., declined from 18,174 cars to 17,409.

Week Ended July 22

Total loadings in the week ended July 22 this year were 80,663 cars, compared with 74,526 in the corresponding 1949 week. Grain loadings increased slightly, viz., from 5,265 cars in the week last year to 5,516, but live stock loadings decreased slightly, viz., from 1,686 cars to 1,659. Coal loadings changed but little, having decreased from 5,231 cars in the 1949 week to 5,227 cars. Pulpwood loadings were up from 3,636 cars in the 1949 week to 4,386 cars, while loadings of lumber, etc., increased from 3,675 cars to 6,076. Loadings of miscellaneous freight were up from 5,418 cars in the week last year to 6,181, but those of merchandise, l.c.l., declined from 17,717 cars to 17,376.

Week Ended July 29

Total loadings in the week ended July 29 this year were 81,096 cars, compared with 73,533 in the corresponding 1949 week. Grain loadings increased from 6,939 cars in the week last year to 7,045, and live stock loadings from 1,556 cars to 1,746. Coal loadings were up from 5,155 cars to 5,593. Pulpwood loadings increased from 2,962 cars in the 1949 week to 4,200 cars, and those of lumber, etc., from 3,896 cars to 5,896. Loadings of miscellaneous freight were up from 5,154 cars in the week last year to 5,770 cars, while those of merchandise, l.c.l., decreased from 17,343 cars to 17,191.

Week Ended August 5

Total loadings in the week ended August 5 this year were 77,933 cars, compared with 69,048 in the corresponding 1949 week. Grain loadings increased from 5,656 cars in the 1949 week to 5,884 cars, and live stock loadings from 1,428 cars to 1,641. Coal loadings decreased slightly, viz., from 4,646 cars to 4,501. Loadings of pulpwood were up from 3,203 cars in the 1949 week to 4,313 cars, and those of lumber, etc., from 3,700 cars to 5,891. Loadings of miscellaneous freight increased from 5,030 cars in the week last year to 5,779 cars, and those of merchandise, l.c.l., from 15,912 cars to 16,677 cars.

Week Ended August 12

Total loadings in the week ended August 12 this year were 75,433 cars, compared with 74,207 in the corresponding 1949 week. Grain loadings decreased in large measure, viz., from 6,723 cars in the week last year to 4,268 cars. Also, live stock loadings decreased, but at lesser rate, viz., from 1,698 cars in the 1949 week to 1,646 cars. Coal loadings were up from 4,527 cars in the week last year to 4,776 cars. Loadings of pulpwood increased from 3,183 cars in the 1949 week to 4,195 cars, while those of lumber, etc., were up from 3,870 cars to 5,921. Loadings of miscellaneous freight increased from 5,216 cars in the week last year to 5,526, but those of merchandise, l.c.l., came down from 17,305 cars in the 1949 week to 15,877.

Cumulative Totals of Loadings

The cumulative total of cars loaded with revenue freight on Canadian railways to August 12 this year was 2,339,154, compared with 2,313,167 in the corresponding part of 1949 and with 2,392,305 in the corresponding part of 1948, the corresponding figures

Week Ended:—

	July 15			July 22			July 29			August 5			August 12		
	All Can.	East. Can.	West. Can.	All Can.	East. Can.	West. Can.	All Can.	East. Can.	West. Can.	All Can.	East. Can.	West. Can.	All Can.	East. Can.	West. Can.
Grain	5,018	1,091	3,927	5,516	1,177	4,339	7,045	1,371	5,674	5,884	1,642	4,242	4,268	1,832	2,436
Grain Products	2,051	1,050	1,001	1,933	1,010	923	1,936	1,117	819	2,301	1,255	1,046	2,479	1,273	1,206
Hay and Straw	69	32	37	85	30	55	113	23	90	117	29	88	141	53	88
Fruits, fresh	84	67	17	77	43	34	109	53	56	125	69	56	106	65	41
Vegetables, fresh or green	262	169	93	348	220	128	307	192	115	337	186	151	308	188	120
Other Agricultural Products	106	84	22	92	53	39	105	70	35	131	104	27	155	119	36
Live Stock	1,394	593	801	1,659	606	1,053	1,746	529	1,217	1,641	537	1,104	1,646	546	1,100
Butter, Cheese, Eggs	161	88	73	156	74	82	144	71	73	185	91	94	142	73	69
Fresh Meats & Packing House Products (edible)	452	170	282	442	177	265	439	147	292	484	187	297	441	164	277
Other Packing House Products	44	26	18	42	25	17	41	18	23	50	27	23	50	26	24
Other Animal Products	100	68	32	78	60	18	72	63	9	103	75	28	132	87	45
Coal	4,657	3,692	965	5,227	3,755	1,472	5,593	3,636	1,957	4,501	2,596	1,905	4,776	2,834	1,942
Coke	595	499	96	569	477	92	653	545	108	771	675	96	611	519	92
Ores and Concentrates	4,248	3,089	1,159	4,577	2,938	1,639	4,397	2,839	1,558	4,030	2,484	1,546	4,398	2,754	1,644
Base Bullion, Matte, Pig & Ingot (non-ferrous metals)	439	263	176	562	323	239	482	328	154	504	282	222	691	296	395
Sand, Stone, Gravel, Plaster, Lime, Brick, Cement, Sewer pipe, Tile	5,694	4,126	1,568	5,437	3,820	1,617	5,237	3,806	1,431	5,186	3,700	1,486	5,240	3,883	1,357
Other Mine Products	1,534	1,317	217	1,977	1,757	220	1,802	1,569	233	1,841	1,582	259	2,042	1,786	256
Logs, Piling, Cordwood	1,081	267	814	1,136	276	860	968	285	683	1,089	212	877	1,198	217	981
Pulpwood	4,293	4,006	287	4,386	4,083	303	4,200	3,880	320	4,313	4,017	296	4,195	3,857	338
Lumber, Lath, Shingles	5,822	3,648	2,174	6,076	3,761	2,315	5,896	3,638	2,258	5,891	3,440	2,451	5,921	3,613	2,308
Other Forest Products	553	390	163	501	383	118	550	469	81	543	461	82	500	400	100
Gasoline, Petroleum Oils & Pdts.	4,918	3,500	1,418	4,836	3,466	1,370	4,744	3,260	1,484	4,823	3,475	1,348	4,737	3,402	1,335
Crude Oil	1,258	7	1,251	1,352	5	1,347	1,606	3	1,603	1,551	5	1,546	1,518	3	1,515
Sugar	495	293	202	574	348	226	612	334	278	495	295	200	576	389	187
Iron & Steel Pdts. (manufactured)	1,812	1,638	174	1,645	1,416	229	1,681	1,456	225	1,580	1,379	201	1,414	1,231	183
Implements, Tractors, Machinery, Boilers	784	618	166	822	632	190	741	526	215	779	532	247	674	386	288
Autos, Trucks and Parts	1,583	1,505	78	1,667	1,561	106	1,628	1,554	74	992	950	42	680	590	90
Fertilizers	385	223	162	374	230	144	283	120	163	412	226	186	447	253	194
Woodpulp and Paper	4,228	3,686	542	4,357	3,777	580	4,537	3,959	578	4,344	3,791	553	4,084	3,530	554
Canned Food Products	536	411	125	603	429	174	468	340	128	474	301	173	460	300	160
Other Products of Manufacturers and Miscellaneous	6,136	4,956	1,180	6,181	4,790	1,391	5,770	4,543	1,227	5,779	4,307	1,472	5,526	4,288	1,238
Merchandise, L.C.L.	17,409	12,859	4,550	17,376	12,714	4,662	17,191	12,471	4,720	16,677	11,828	4,849	15,877	11,323	4,554
Total Revenue Cars Loaded	78,201	54,431	23,770	80,663	54,416	26,247	81,096	53,215	27,881	77,933	50,740	27,193	75,433	50,250	25,183
In corresponding week of 1949	73,210	50,717	22,493	74,526	50,399	24,127	73,533	47,095	26,438	69,048	43,858	25,190	74,207	46,534	27,673
Received from Connections	28,966	26,149	2,817	31,720	29,162	2,558	34,057	31,459	2,598	34,733	32,145	2,588	34,053	31,257	2,796

for Eastern Canada being 1,577,132, 1,529,017 and 1,628,373, and, for Western Canada, 762,022, 784,150 and 763,932.

The cumulative total of grain loadings to August 12 in all of Canada was 166,615 cars, compared with 194,815 in the corresponding part of 1949 and with 156,326 in the corresponding part of 1948, the corresponding figures for the cumulative totals of live stock loadings being 49,316, 48,539 and 61,647; of coal loadings, 184,212, 171,269 and 178,443; of pulpwood loadings, 106,138, 125,929 and 185,896; of loadings of lumber, lath and shingles, 132,646, 104,775 and 124,055; of loadings of miscellaneous freight, 172,184, 164,363 and 174,476; of loadings of merchandise, l.c.l., 536,021, 571,295 and 576,636.

Cars Received from Connections

To August 12 this year, the Canadian railways received 992,737 cars of revenue freight from connections, compared with 989,528 in the corresponding part of 1949 and with 1,105,117 in the corresponding part of 1948.

Mainly about Railway People

J. H. Baker, whose appointment as Purchasing Agent, C.P.R., Calgary, Alta., was recorded in our June issue, was born at Cape Cove, Que., and joined the company at Montreal in 1918. He became Secretary to the Vice President before being transferred in 1937 to the Purchasing Department, where he rose steadily through the ranks to become Chief Clerk in 1943 and Assistant Purchasing Agent in 1948.

M. E. Doke, whose appointment as Passenger Traffic Manager, Central Region, C.N.R., Toronto, was noted in our June issue, was born at Chesley, Ont., and entered the company's service as a night checker, Radville, Sask., in July, 1916. Subsequent to serving in clerical positions at Winnipeg, Toronto and Montreal, he was appointed to the Tourist and Convention Bureau, Montreal, in 1930. Since then he has been: 1933, Chief Clerk, T. & C. Bureau; 1935, City Passenger Agent; 1940, General Agent, Passenger Department; Jan., 1942, General Tourist and Convention Agent; 1944, General Passenger Agent, all at Montreal. Mr. Doke is a member of the Canadian Railway Club and of the American Association of Passenger Traffic Officers, and also an honorary member of the American Association of Travelling Passenger Agents.

D. C. Hartley, who was recently appointed Superintendent, Revelstoke Division, C.P.R., Revelstoke, B.C., was born at Brantford, Ont., November 19, 1897, and entered the company's service, August 16, 1913, as junior clerk, Moose Jaw, Sask. He has served since in various clerical capacities and was appointed:—1939, Night Yardmaster, Swift Current, Sask.; 1941, General Yardmaster, Brandon, Man.; 1943, Assistant Superintendent, Portage Division, and at Souris, Man., successively, and from 1944, at Vancouver. He was promoted to Superintendent, Regina Division, Regina, Sask., in 1948. From May 1, 1918, to Nov. 24, 1918, he was on military service with the Canadian Railway Troops as private and corporal, successively.

R. H. Hobern, whose appointment as Assistant General Agent, C.P.R., London, England, was recorded in our June issue, was born at Clapton, London, England, August 24, 1898. He joined the C.P.R. in September, 1920, as a clerk in the Passenger Department, London, his subsequent record being: May, 1922, transferred to Southampton Port Office; September, 1936, Chief Clerk to Passenger Agent, Southampton; January, 1944, transferred to Bristol office; January 1, 1950, Passenger Agent, Bristol. Mr. Hobern saw active service as an officer in Belgium and France during World War I and was with the Civil Defence Service at Southampton during World War II. He was Secretary of the Canadian Club of Bristol and is a Fellow of the Royal Empire Society.

Thomas C. Hudson, who died in June, aged 77, was, at the time of his retirement from railway service early in 1939, General Superintendent, Montreal District, Central Region, C.N.R. He was born at Brockville, Ont., February 20, 1873, and after early experience with the Canadian Pacific and Canadian Northern, entered Canadian National Rys. service in December, 1918, as General Master Mechanic, lines east of Port Arthur and Armstrong, Ont. His subsequent appointments were:— March 1, 1923, Assistant General Superintendent, Motive Power, Toronto; June 17, 1929, General Superintendent, Southern Ontario District, Toronto; June 8, 1936, General Superintendent, Montreal District, Central Region, Montreal, and also carrying out the duties of Superintendent, St. Lawrence Division. He was President of the International Fuel Association in 1928-29, and, in 1931, the first President of the then newly-formed Toronto Railway Club. Prior to retirement, he was a keen curler and tennis player, and was a lifelong member of Sarnia Curling Club. During the second world war he served as assistant controller of machine tools. Interment was at Carleton Place, Ont.

J. S. McDonald, who was recently appointed General Passenger Agent, C.N.R., Montreal, was born in Toronto, February 10, 1898, and entered the company's service there, September 8, 1919, as stenographer, Advertising Department. Transferring to the General Tourist Bureau as clerk-stenographer, he since has been:—1923, Chief Clerk; 1928, Tourist Representative; 1942, General Agent, Passenger



Marking Retirements of H. B. Timmins and M. T. Biette from C.P.R. Service

In the view at the left, Eric A. Leslie, Vice-President and Comptroller (left), is congratulating H. B. Timmins, who retired at the end of May from the position of Auditor of Miscellaneous Accounts, after service extending from November, 1898, when he joined the C.P.R. as a clerk in Montreal. In the view at the right, N. R. Crump (right), Vice-President, wishes well to M. T. Biette, who was Chief Clerk in the office of the Vice-President, and who retired on pension at the end of May after 49 years' service. Mr. Biette joined the company in 1901 at Toronto, but served mostly in Western Canada, proceeding to Montreal in 1943 to assume the position from which he has now retired.

Dept.; 1944, Assistant to Manager, Passenger Service Bureau; 1947, General Tourist Agent, all at Montreal.—An internationally-known outdoor sportsman and rifle and revolver shot. Mr. McDonald is acquainted with camp owners and outfitters from coast to coast and with practically every hunting and fishing association and tourist and convention organization in Canada and the U.S.A. As a climax to more than 30 years of revolver shooting, he holds the Provincial Revolver Shooting Championship of Quebec, and has competed in several international rifle matches. For several years, he was secretary of the C. N. Revolver Club and Vice-President of the Province of Quebec Rifle Association.

R. J. Payne, who was recently appointed Assistant District Car Foreman, C.N.R., Montreal, was born at Bridgetown, N.S., and entered the company's service in 1938 as carman apprentice, Point St. Charles Shops, Montreal. His training was interrupted at the outbreak of war, when he enlisted in the R.C.A.F., where he was appointed supervising inspector, No. 3 Aircraft Inspection Detachment. Returning to the railway in January, 1945, as carman, at the Shops, he was appointed Assistant Foreman there, four months later; Car Foreman, Longue Point, Que., in 1946; at the Central Station, Montreal, later, and at Ottawa in April, 1948. In July of the same year he became Assistant Chief Draftsman (Car), Montreal.

G. H. Pescud, who was recently appointed Assistant General Manager of Communications, C. P. R., Montreal, was born in Surrey, England, and entered the company's Communications Department in 1923, serving variously as messenger, agent, operator and night chief operator. Subsequent promotions in the same department were:—1936, Chief Clerk to General Manager, Montreal; 1943, Superintendent of Traffic, Winnipeg; 1944, Superintendent, Saskatchewan District, Moose Jaw, Sask.; and, 1946, General Superintendent, Western Lines, Winnipeg.

A. M. Shields, who was recently appointed Assistant Freight Traffic Manager, C.P.R. Montreal, was born in Glasgow, Scotland, March 25, 1903, and entered the company's service November 2, 1917, as junior clerk there. Subsequent to serving in various capacities and as Chief Clerk, Regina, Sask., he was appointed:—1937, District Freight Agent, Moose Jaw, Sask., from 1942, at Nelson, B.C., and, from 1943, at Edmonton, Alta.; 1944, Division Freight Agent, Vancouver, and, from 1946, at Winnipeg; 1948, General Freight Agent, Sales and Service, Prairie Region, Winnipeg, and, from 1949, Ontario and Algoma Districts, Toronto.

C. N. Smith, whose appointment as Assistant Regional Auditor, C.N.R., Moncton, N.B., was recorded in our June issue, was born at Campbellton, N.B., and entered the employ of the railway as a call boy at Campbellton



J. S. McDonald,
General Passenger Agent, C.N.R., Montreal

in 1905. There he became clerk in 1907, train agent in 1912, timekeeper in 1913 and accountant in 1916. Subsequent promotions were:—1920, accountant, Quebec; 1940, travelling accountant, 1943, assistant accountant, and 1946, accountant, all at Moncton.

E. P. Stemshorn, who was recently assigned to special duties in the Mechanical Department, C.N.R., Montreal, is a native of Shubenacadie, N.S., and joined the company in 1925 as machinist's apprentice at Montreal. Subsequently he was promoted there:—1931, draftsman, Mechanical Department; 1943, Mechanical Inspector, and later, Assistant Chief Draftsman; 1947, General Foreman, Car Shop, Point St. Charles; and, 1948, Assistant Works Manager.



J. W. Wright,
Inspector, Investigation Department, Alberta District, C.P.R., Calgary

C. H. Thurber has succeeded **W. J. Collins** as Manager of the Canadian Car Demurrage Bureau, Montreal.

J. W. Wright, who was recently appointed Inspector, Investigation Department, Alberta District, C.P.R., Calgary, succeeding J. R. Johnston, has been twenty-five years with the Department, his service including three years as Investigator at Edmonton, Alta. A Prince Edward Islander, he was educated at Moose Jaw, Sask. For a year in World War II he was master-at-arms on the C.P.S. liner Empress of Canada, later sunk.

Railway Accidents

In June, according to the Operating Department of the Board of Transport Commissioners for Canada, there were 192 accidents on Canadian railways, 21 persons having been killed and 211 injured, and 26 level crossing accidents, 6 persons having been killed and 34 injured, a total of 218 accidents, with 27 persons killed and 245 injured.

Of those killed, one was a passenger, eight employees and 18 others, and of those injured, 31 were passengers, 174 employees and 40 others.

The level crossing accidents by provinces were:—

Nova Scotia	1
New Brunswick	1
Quebec	6
Ontario	9
Manitoba	3
Saskatchewan	1
Alberta	5
	26

Automobiles were involved in 15 crossing accidents, motor trucks in six, pedestrians in three, a motorcycle in one and a bicycle in one. Chief causes were driving on crossings in front of approaching trains and driving into side of trains. Sixteen of the crossing accidents occurred at unprotected crossings and 10 at protected crossings, and 15 of the accidents occurred after sunrise and 11 after sunset.

Accountants

(Continued from page 499)

well as improved terminals, shops and other equipment.

Work of Arrangements Committee Appreciated.— The meeting closed with a vote of thanks to Mr. Cooper and the other members of the committee on arrangements, for the efficient manner in which the diversified problems of the meeting had been handled.

The predecessor body of the Accounting Division of the Association of American Railroads was organized in 1888, to deal with all phases of railway accounting. Through its mandatory rules and recommended practices, and through the adoption of standard forms, it has done much to develop uniformity in railway accounting procedures, thus adding to simplicity, economy and efficiency in railway transportation.



Impressive Demonstration of F-86 Sabre Jet

The first of 100 F-86 Sabre jet fighter planes being built by Canadair, Ltd., for the Royal Canadian Air Force, made its first test flight at Dorval Airport, Montreal, August 9. The plane was judged a complete success, the flight meeting all contract requirements as determined by the authorities over a year ago.

At Dorval Airport, Montreal, on August 9, the first of the 100 F-86 Sabre jet fighters being built by Canadair, Ltd., for the R.C.A.F., made its initial test flight, with the Canadair, Ltd., Chief Pilot, Capt. A. J. Lilly, a veteran with over 13 years of commercial and test flying experience, at the controls. The demonstration given was very impressive, the flight meeting the original contract requirements as determined over a year ago. The demonstration was conducted in the presence of senior government, air force and Canadair, Ltd., officials, including the Minister of National Defence, Mr. Claxton; Air Marshal W. A. Curtis, Chief of Air Staff; Air Vice Marshal D. M. Smith, C.B.E., Air Member Technical Services; Air Commodore D. S. Blaine of R.C.A.F. headquarters; Group Capt. W. R. MacBrien, O. C., Air Defence Group, St. Hubert; J. G. Notman, Executive Vice President, Canadair, Ltd., and W. K. Ebel, Vice President, Engineering, Canadair, Ltd.

Following the demonstration with the F-86 Sabre jet, a CF-100 fighter, of A. V. Roe Canada, Ltd., manufacture, which had been flown from Toronto to Montreal in record time on the preceding day, was used to provide a brief demonstration. Avro test pilot Waterton handled the CF-100 fighter.

The F-86 Sabre jet fighter was designed by North American Aviation, Inc., of Los Angeles, and is being built by Canadair, Ltd., under license from that firm, it being reported that the license permits Canadian modification of the plane as built in Canada. It is a super-streamlined, jet-propelled, single seat, interceptor fighter with pressurized cabin and with pilot ejection seat. The plane has wing span of 37.12 ft., length of 37.54 ft. and height of 14.74 ft. Its gross weight is 13,715 lb., its service ceiling is over 40,000 ft., and it has a tactical radius of 500 miles. It is powered by one General Electric model J-47, axial-flow turbo jet developing 5,000 lb thrust. The plane holds the official world speed record of 670 m.p.h., being said to be the fastest production aircraft in the world. It is a first line aircraft of the United States Air Force.

Statement by Defence Minister

At the demonstration, Defence Minister Claxton issued the following statement:—

"Free nations like Canada are today being forced to take strong united action to stay free and preserve peace by deterring aggression. In Canada we are building up our armed forces, and producing equipment as fine as any in the world.

"Every country today wants modern jet fighters. In Canada we are fortunate in having two of the best of their respective classes. The F-86, which we are seeing here today, is in front-line service with the United States Air Force and is one of the world's best day fighters. The aircraft which will be following this one off the production lines will be better still. The aircraft following will have numerous modifications incorporated which will considerably increase their all-round performance.

"The first F-86 has the General El-



Group Present during First Flights of the First Canadian-built F-86 Sabre Jet Fighter, Produced by Canadair, Ltd.

Those appearing are Air Marshall W. A. Curtis, Chief of Air Staff; J. G. Notman, Executive Vice President, Canadair, Ltd.; the Minister of National Defence, Mr. Claxton; Air Vice Marshal D. M. Smith, C.B.E., Air Member Technical Services; Dr. O. M. Solandt, Chairman, Defence Research Board.

ectric J-47 jet engine in it, as will those aircraft immediately following it off the production line. However, later aircraft will be engineered to use our own Orenda jet engine, if this proves desirable.

"A year ago I announced that negotiations had been completed for manufacture of the F-86 in Canada, and August, 1950, was mentioned as the target date for production of the first. Canadair has come through right on schedule.

"On July 20 I announced that we were doubling production programmes.

"In addition to the F-86 we are producing the CF-100, the Canuck. The second prototype of the Canuck, our long-range, all-weather jet fighter being produced by A. V. Roe in Malton, Ontario, made its appearance last month and the results of the flight testing programme on the aircraft have been most satisfactory. When we get these two aircraft into service, the R.C.A.F. will have two of the world's leading aircraft of their respective classes. The two fighters have been selected as being complementary to one another, and we expect that they will make a grand team.

"I should like also to mention the Orenda jet engine, produced for us by A. V. Roe. This engine has commenced its actual flight tests, and its performance has been very satisfactory. It will serve as the power unit in all "Canucks" produced from now on. In addition, the Orenda has been ground tested in an F-86 in the United States, and flight tests are to be carried out in the near future. General performance of the Orenda has been most satisfactory, and development work is continuing which is expected to increase its performance still more.

"This is another occasion when I want to congratulate Canadian industry and Canadian workmen on doing a fine job in association with the R.C.A.F. It brings home again the kind of team work we have been getting in defence. Here you are working for yourselves because you are working for Canada. Now let's get on with the job and 'start them rolling'."

Mainly about Air Transport People

Capt. L. K. Davis, whose appointment as Check Pilot, Eastern Region, Trans-Canada Air Lines, was recorded in our April issue, joined T.C.A. in January, 1940, as First Officer. He was promoted to Captain in June, 1942.



S. S. Foley, M.B.E.,
District Controller of Air Services, Department of Transport, Toronto District.

and in 1946 was appointed Flight Instructor. In his new position he is based at Montreal, and is responsible for flight checking of pilot personnel in the T.C.A. Eastern Region.

Capt. L. L. Dunsmore, whose appointment as Check Pilot, Atlantic Region, Trans-Canada Air Lines, was recorded in our April issue, came to T.C.A. as First Officer in February, 1940. Promoted to Captain in April, 1941, he was appointed Check Pilot in 1945 and Chief Flight Instructor in 1947. In his new position he is based at Montreal, and is responsible for flight checking of trans-Atlantic pilots.

S. S. Foley, previously District Controller of Air Services, Department of Transport, Moncton, N.B., who, according to joint announcement of the Minister of Transport and the Civil Service Commission, has been appointed District Controller of Air Services for the Department at Toronto, succeeding J. R. Robertson, M.B.E., was born at Saint John, N.B., and joined the Civil Aviation Branch of the Department of Transport in 1936 as Assistant Inspector, Civil Aviation. He was a flying officer with the Royal Air Force during the first world war, and was awarded the M.B.E., for his part in the development of aerodromes for the British Commonwealth Air Training Plan. Prior to his appointment as District Controller of Air Services at Moncton, he was District Inspector of Southern Airways District with headquarters at Hamilton, Ont.

A. D. McLean, O.B.E.—The appointment of Mr. McLean, previously Controller of Civil Aviation, Department of Transport, as a member of the Air Transport Board, was recorded in our July issue, pg. 388, where his potrait appeared.

Mr. McLean fills the vacancy created by the recent resignation of Air Vice Marshall Alan Ferrier, C.B., M.C., who has joined the Secretariat of the International Civil Aviation Organization. The other members of the Air Transport Board are J. R. Baldwin, Chairman, and J. P. R. Vachon. In announcing Mr. McLean's appointment, the Minister of Transport stated that the Air Transport Board was most fortunate in obtaining Mr. McLean for one of its members, in view of his most extensive experience, and said: "Upon Mr. McLean and his assistants has fallen the responsibility of planning, constructing and equipping airports in the extensive network of airways which now covers all of Canada and which has made possible the establishment of major air line and air transport operations in Canada."—In his capacity as Controller of Civil Aviation and prior to that as Superintendent of Airways of the Department of Transport, Mr. McLean has been responsible in a large measure for the planning and construction of the Trans-Canada airway scheme, the Northwest Staging Route from Edmonton to the Alaskan border, the Trans-Atlantic route and the construction of aerodromes used in the training of airmen under the British Commonwealth Air Training Plan during World War II. In the course of his duties, Mr. McLean has flown over every part of Canada and has visited the United States, the United Kingdom, Europe, Australia, and New Zealand. A native of Glengarry, Ontario, he was still a boy when he proceeded to Alberta with his parents; he received most of his education in that province. He was commissioned as a pilot in the Royal Flying Corps and Royal Air Force in World War I. On his return to Canada he attended the University of Alberta, and followed a business career until 1927, when he joined the R.C.A.F., having been attached to the staff at Camp Borden and later in the Maritimes. On January 29, 1929, he flew the first return air mail between Ottawa and Saint John, N.B., and in February and March of that year flew the experimental service between Saint John and Halifax.



J. R. Robertson, M.B.E.,
Superintendent of Airways and Airports, Department of Transport.

In 1929, he transferred from the Royal Canadian Air Force to the Civil Aviation Branch of the Department of National Defence and was given the task of developing in the Prairie Provinces the first airways system in Canada. In 1931 he was placed in charge of all airport construction work across Canada, and when the Department of Transport was formed in 1936, to include the Civil Aviation Branch of the Department of National Defence, he was appointed Superintendent of Airways. In 1941 he was appointed Controller of Civil Aviation of the Department of Transport. In that year he was awarded the Trans-Canada trophy, more generally known as the McKee trophy, for "meritorious service in the advancement of aviation in Canada and in recognition of his outstanding service in aviation." —Mr. McLean is a Squadron Leader in the Royal Canadian Air Force reserve of officers.

Donald Edmund McLeod, whose appointment as General Supervisor of Public Relations, T.C.A., Montreal, was recorded in our March issue, was born at St. Leonards-on-Sea, Sussex, England, on May 15, 1917. He was educated at Edmonton schools and the University of Alberta, graduating with the degree of M.A. in 1941. After service as newspaperman and theatre manager he joined T.C.A. at Winnipeg in 1942 as Magazine Editor. Four years later he was made Editorial Supervisor with the airline at Winnipeg and Montreal, the position he held prior to his recent appointment.

John Ross Robertson, M.B.E., previously District Controller of Air Services, Department of Transport, Toronto District, has been appointed Superintendent of Airways and Airports for the Department, at Ottawa, according to the August 4 joint announcement of the Minister of Transport, Mr. Chevrier, and the Civil Service Commission. He succeeds Major Robert Dodds, O.B.E., M.C., whose appointment as Controller of Civil Aviation, Department of Transport, was recorded in our August issue, pg. 440, where his portrait appeared. Mr. Robertson is a native of Blenheim, Ont., and received his early education there before attending the University of Toronto. He had considerable service overseas in the first world war, and his university studies were interrupted in 1916 when he enlisted in the ranks of the Canadian Army. He later transferred to the Royal Naval Air Service and afterwards to the Royal Air Force, and saw considerable action before being wounded in August, 1918. He resumed his studies at the University of Toronto on his return from overseas, and graduated in medicine in 1928. He joined the Department of Transport in October, 1936, and became Chief Inspector of Airways in July, 1943. He was awarded the M.B.E. for outstanding work during the development of aerodromes for the British Commonwealth Air Training Plan during the second world war. He held numerous posts in the aviation industry as a pilot and air engineer previous to joining the Department of Transport.

H. A. Ross, President, Ross-Aero, Ltd., Montreal, was elected President of the Institute of Aircraft Technicians, at the annual general meeting of that body in Montreal on March 16. Mr. Ross has been associated with the aircraft industry for many years. Other Institute officers and directors elected were:—**R. J. Conrath** of Railway and Power Engineering Corp., Ltd., Vice President; **C. Bernier** and **R. A. Vinet** of Canadair, Ltd.; **F. J. Board** of Canadian Car and Foundry Co., Ltd.; **T. Lord** of The Babb Co., Ltd., and **F. W. Moore** of Canadian Wright, Ltd.



R. Dixon Speas,
Newly-appointed United States representative for Avro Canada

R. Dixon Speas, formerly Special Assistant to the President, American Airlines, has been appointed United States Representative of Avro Canada (A. V. Roe Canada, Ltd.), builders of the jet liner, America's first jet transport. Mr. Speas, who said that he was effecting the transfer largely for the satisfaction of being in on the development of something exciting and revolutionary in air transportation, has his headquarters at La Guardia Field, New York. Since he graduated from the Massachusetts Institute of Technology, where he received the Bachelor of Science degree in 1940, Mr. Speas has been with American Airlines. He started in the engineering department and during 1946 and 1947 was in charge of engineering and maintenance of the Contract Air Cargo Division at St. Joseph, Missouri. As recipient of first award in the 1937 annual Boeing Thesis competition, he also attended the Boeing School of Aeronautics. While at Boeing he obtained his Commercial Pilot's Certificate and worked in the Sales Department of Trans-World Airlines. He received the 1942 award of the Air Transport Association of America for the "best airlines dispatching and meteorology research of the year," and in 1944 was cited by a national U.S. magazine as one of the ten outstanding young men in the aviation industry. He has been active for a number of years in the Institute of the Aeronautical Sciences and the Society of Automotive Engineers. Author of the books, "Airplane Performance and Operations," "Pilot's Technical Manual" and "Airline Operations". Mr. Speas has also written a number of articles and papers on technical and general phases of air transportation and aviation during the past several years. In 1935 he worked as aviation reporter for the Winston-Salem(N.C.) "Journal" and "Sentinel" and aviation commentator for radio station WSJS. During the war, he was active in the planning and technical aspects of the transoceanic services which were conducted by American Airlines for the U.S. Air Transport Command. He was assigned to a special mission on the staff of the Commanding General of the U.S. Army Air Forces, Proving Ground Command, Eglin Field, Florida. Born in 1916, he received his early education in North Carolina.

Turbo-Prop vs. Turbo-Jet

An estimate by R. Dixon Speas, United States Representative of Avro Canada, builder of the jetliner and CF-100 jet fighter, and an engineer and pilot, is that testing and experimental operation with the first jetliner prototype, and with another recently built, should be completed in about two years, and that the introduction of the first jetliners in regular service should come soon after that. He thinks that airliners will probably all be turbo-powered within 10 to 15 years.

According to Avro Canada, Mr. Speas takes exception to the contention that turbo-prop engines will precede turbo-jets on the airlines. The propeller, he said, introduces additional complications in weight, maintenance, operation and controls. He pointed out that the Avro Jetliner was originally conceived four years ago as a turbo-prop aircraft. As the engineers worked out the plans, however, they decided to substitute turbo-jet engines, the simplest of power plants. The Rolls Royce Derwent engine alone, which is used in the Jetliner, has had more than 150,000 hours of flying experience, mainly in the United Kingdom's Gloster Meteor fighter, whereas there has been considerably less experience with all turbo-prop engines, he said.



Selecting and Training Toronto's Operators

The programme for the selection and training of new operators of transit equipment in Toronto has been a very successful one, and representatives of transit properties throughout Canada and the United States have visited Toronto to study procedure details.

The Toronto Transportation Commission has a very successful selection and training programme for its new operators of electric railway cars, trolley coaches and motor buses and coaches, and the results secured have been such that the Commission has had a great many visitors from transit properties located all over Canada and the United States, anxious to secure all possible information in regard to the procedures adopted in choosing new operators and training them for their exacting duties. The views shown in the accompanying illustrations assist in conveying to the reader the manner in which the Commission's programme is carried out, how the methods employed ensure safe, efficient and courteous service for the public, and why the labor turnover among the employees concerned has been under 1% monthly, which is considered a very favorable figure.

Employee Selection

In Fig. 1, the left hand view in the first three-column illustration, an applicant for employment is shown upon arrival at the counter in the Personnel Department office, where he fills in an "application for employment" card. The card is checked by a Personnel Department official (in Fig. 1, Frank McFarlane) and if the information on the card indicates that the applicant is capable of meeting the Commission's requirements, a "personal history and record" form in regard to the applicant is completed. If the information provided on this form is satisfactory, the applicant proceeds to the testing stage, and, in Fig. 2 (center view in first three-column illustration) A. McCollum is shown handing the applicant a mental ability test, designed to measure his capacity to learn. With this passed satisfactorily, the applicant is later given a "personal reaction test", which assists in gauging such qualities as stability, maturity and alertness. Of course, an applicant cannot be accepted for the strenuous and exacting service of the Commission unless his vision is good, and each man seeking employment must pass an exacting and thorough test of vision if his application is to be successful. In Fig. 3 (right hand view of first three-column illustration) Chief Interviewer H. Orpen is shown in the course of giving the applicant a test of vision.



Left, Fig. 1 Centre, Fig. 2. Right, Fig. 3

The applicant having demonstrated himself as fit so far as eyesight is concerned, a motor ability test is next on the programme, and this test determines (without a road test, which would involve much time and expense) whether an applicant can learn to perform an operator's duties. The applicant taking the motor ability test is shown in Fig. 4 (left view of two-column illustration) with A. Disley briefing the applicant before the test proper begins. In this test, light patterns flash on a panel at the end of the room furthest from the applicant, and the applicant, in order to pass the test, must react



Left, Fig. 4. Right, Fig. 5.



Left, Fig. 6. Centre, Fig. 7. Right, Fig. 8.

quickly and correctly in accordance with instructions previously given him.

With the applicant for employment having successfully passed all tests mentioned in the foregoing, he then proceeds for a medical examination, to determine his physical fitness. In Fig. 5 (right hand view of two-column illustration) Dr. K. Bates is seen ascertaining the applicant's blood pressure.

With physical fitness determined as satisfactory, and with the information obtained by the preceding tests and from the forms filled in, it is evident that considerable knowledge concerning the applicant has been gained, and it must be evaluated. Further information and particulars are obtained by a placement interview with the applicant, wherein the man's record is measured against the desired qualities, and the facts weighed in this final stage of the selection procedure. At an acceptance interview, the applicant secures an idea of his prospective job and the conditions of employment with the Commission, and anything which he desires to know is explained fully to him. Selection is under the supervision of George Glover, and only applicants adequately fitted to perform the job are sent on to the school of instruction.

Upon an applicant having successfully proceeded to the point of admittance to the school of instruction, he is welcomed to the school, and interviewed by the Superintendent of Instruction, G. I. Grant, as shown in Fig. 6 (left hand view in second three-column illustration). He becomes accustomed to the feel of a uniform cap, and in Fig. 7 (middle view of second three-column illustration) is seen trying on a cap under the inspection of Senior Inspector Fred Churchill. A cap badge is not issued until the applicant has completed his 28-day training programme. The students at the school of instruction are informed fully in regard to the traffic laws, car mechanisms, switches, conductors' duties, etc., and all necessary background information is given them. The mechanism of an electric railway car is explained fully, and in Fig. 8 (right hand view of second three-column illustration) Inspector Wm. Cunningham is shown explaining, by means of the electrical demonstration board, what is to be done in the event of motor trouble. The diagram seen at the left in this view shows the door interlocking circuits and the course of the electric current.

At the school of instruction, the student operator learns how to operate all the types of electric railway cars in the Commission's service, including the latest model Presidents' Conference Committee cars. A model of each type of car is located at the school, and each is equipped with the electric power and air brake controls present on the car in actual service. In the accompanying Fig. 9, a student operator is shown receiving his first lesson on the proper method of notching a controller.





Above, Fig. 9. Below, Fig. 10.

Near the end of 1949, the entire T.T.C. electric railway system was equipped with "Necessity Action" switches, with the track switch remaining set for a straight run unless the operator presses a button to open the switch for the curve. The N.A. switch, pioneered by the Commission, is a great safety factor. In the accompanying Fig. 10, Inspector Cunningham is shown demonstrating the correct operation of this switch.

As the student operator's course of instruction approaches finality, he is allowed to operate an electric railway car on the training tracks in the yard at the Commission's Hillcrest Shops property in Toronto, and in this part of the training special attention is paid to the track switches. After a student has become thoroughly familiar with the operation of the car, he is allowed to operate a car on the city streets, with an instructor remaining at his side. He becomes familiar with the routine of a division, and learns how to take the car in and out. He then spends a day at the Commission's head office, where he hears talks by representatives of the Safety Section, Public Relations Department, and Traffic Department. A student operator handling a car in the Hillcrest yard is shown in the accompanying Fig. 11.

With his course of training completed, the new operator is furnished with his cap badge and equipment, and is placed on a run. An inspector visits his car periodically during his first year of service, and reports on the progress he is making. At the end of the first year, a satisfactory junior operator is regarded as fully qualified.

From the foregoing it is evident that the Commission's selection pro-

Canadian Transit Association

Honorary Advisory Council: Aubrey A. Burrows, President, Acton Burrows Co., Publishers, Canadian Transportation; W. H. Carter, President and General Manager, Winnipeg Electric Co.; W. R. Creighton, Chairman, Ottawa Transportation Commission; V. Cusson, Chairman, Montreal Tramways Commission; Dr. A. E. Grauer, President, British Columbia Electric Ry. Co.; R. G. Ivey, President, The London Street Ry. Co.; Wm. C. McBrien, Chaiman, Toronto Transportation Commission; J. N. Sicard, Vice-President and General Manager, Quebec Ry., Light and Power Co.; G. Fraser Stewart, K.C., City Solicitor, City of Regina.

President: J. R. Empringham, Superintendent, Niagara, St. Catharines and Toronto Ry.

Vice-President: P. A. S. Todd, General Manager, The Hamilton Street Ry. Co.

Treasurer: Leonard Tait, Secretary-Treasurer, The London Street Ry. Co.

Honorary Counsel: I. S. Fairty, K.C., General Counsel, Toronto Transportation Commission.

Executive Committee: The President, the Vice-President, the Treasurer, the Immediate Past President (W. H. Furlong, K.C., Chairman and General Manager, Sandwich, Windsor and Amherstburg Ry. Co.), the Honorary Counsel, and E. W. Arnott, Vice-President, Vancouver Island Operations, British Columbia Electric Ry. Co.; M. T. Bancroft, Vice-President and Comptroller, Quebec Ry., Light and Power Co.; D. E. Blair, Consulting Engineer, Montreal Tramways Co.; R. B. Chandler, Manager, Port Arthur Public Utilities Commission; H. J. Curtis, Vice President and General Manager, Provincial Transport Co.; C. H. Dahl, Manager of Transportation, Winnipeg Electric Co.; A. Duperron, General Manager, Montreal Tramways Co.; T. Ferrier, Superintendent, Edmonton Transit System; D. N. Gill, General Manager, Ottawa Transportation Commission; P. G. McAra, Superintendent, Regina Municipal Ry.; H. C. Patten, General Manager, Toronto Transportation Commission; S. E. Preston, General Manager, Kitchener Public Utilities Commission; Sigurdur Sigmundson, Transportation Operations Manager, British Columbia Electric Ry. Co.; N. T. Smith, Manager, Nova Scotia Light and Power Co.; H. W. Tate, M.B.E., Assistant General Manager, Toronto Transportation Commission; R. N. Watt, President and Managing Director, Montreal Tramways Co.

Secretary: J. F. Neild, Electrical Engineer, Toronto Transportation Commission, 35 Yonge St., Toronto.

Official Organ: Canadian Transportation, 345 Adelaide St. West, Toronto.

leeting Cancelled

:h had been scheduled for Los
to international situation uncer-
reparedness programme in the
officially advised.

annual meeting, which had been scheduled to be held in Los Angeles, September 25-27, our advice said:—"Before taking this action, an expression had been obtained from a representative cross section of the industry's executives, including those on the Pacific Coast, who were practically unanimous in the feeling that it would be inadvisable, in the circumstances, to hold the usual type of general convention at this time."

In regard to the move to authorize the immediate appointment of a war programme committee, our advice stated:—"This committee will include representation of both operating companies and manufacturers, a number of whom served with Government war agencies during World War II. The principal function of the committee will be to carry out, working with the Board of Directors, a continuous program of action for the transit industry for the duration of the present emergency. Another important function of this committee will be to impress upon high military and other Government authorities in Washington the vital role which transit will be called upon to play in a war, and with the urgent need of assigning transit companies priority ratings which will enable them to obtain sufficient critical materials and manpower to perform that task."

As concerns the two-day emergency conference for industry executives, both operating and manufacturer, it was said:—"This will be for the consideration of the many serious problems which will confront the industry as the extensive preparedness program now taking shape in Washington gets into full swing. There will be only general conference sessions and no Divisional meetings. The time and place of the conference and details of the program will be announced as promptly as possible."

Our advice concluded:—"Member companies will be kept advised of developments. We cannot too strongly urge every transit company, if it has not already done so, to immediately complete plans to meet any emergency situation, ranging from that now existing to that which would prevail in an all-out world war."

In regard to cancellation of hotel and special train reservations, those who had planned to attend the annual meeting were advised:—"The Biltmore and Alexandria Hotels in Los Angeles and the Mark Hopkins and Fairmount Hotels in San Francisco have been advised about the change in convention plans, and instructions have been issued to those hotels to cancel all reservations made by A.T.A. delegates. If, for any reason, you should wish to retain such reservations for other purposes, the hotel or hotels involved should be notified immediately.

"The special train to Los Angeles and all reservations on it also have been cancelled. No other action on your part, if you made such reservations, is necessary."

Emergency Meeting in Chicago:—More recent advice is that an emergency conference of transit operating and manufacturing executives is to be held at the Stevens Hotel, Chicago, September 18 and 19, as decided by the Association's war programme committee at its first meeting. This committee has H. L. Swift, President, Harrisburg Railways Co., as its Chairman, with W. R. Pollard, President, Virginia Transit Co., as Vice Chairman representing operators, and J. H. Middlekamp, Vice President, Mack-International Motor Truck Corp., as Vice Chairman representing manufacturers.

Address by A. T. A. President Morris Edwards

In an address at the first general session of the Canadian Transit Association's recent annual meeting, Morris Edwards, President, Cincinnati Street Ry. Co., and President, American Transit Association, stated as in the following:

Mr. President, Ladies and Gentlemen: I cannot refrain at the outset from saying that one of your most gracious customs is to honour the President of the American Transit Association with the opportunity to address your meeting. It is one of the really rewarding bits of pay which make the office so attractive to those who occupy it from year to year.

I am particularly enjoying this opportunity to be with you, as I have enjoyed other opportunities during the year that I have been President of the A.T.A. to get into sections of Canada that I had not previously visited. I come away from each of these trips with much the reaction that your President was endeavouring to encourage you to have in the way of an attitude, namely, the growth and expension that is going on in your country and its great cities. The fresh-minded approach that your companies are making to the problems by which they are confronted in their local situations, and the momentum and verve with which all are looking at the collective situation of your industry as a whole, are things that we across the border very well might envy and emulate.

I asked your President this morning to reverse the order of these two addresses, because having had the advantage of reading Mr. Hecker's address in advance, I knew that he laid a factual groundwork covering many statistical aspects of topics that I wanted to discuss. I have not prepared a formal address, but have tried to give more than casual thought to some observations, which I should like to offer for your consideration on what, to me, seem to be long-range trends and fundamental, stubborn problems which our industry has to face.

The remarks of your President, emphasized by the facts brought forward by Mr. Hecker, highlight the proposition that the situations of the industry in the two countries are by no means identical. I do believe, however, that the trends at work in our respective situations are of the same nature, but that their impact has not been identically timed in both situations and has not been of identical degree.

As I looked at the charts which Mr. Hecker distributed, and saw the absence of American cities five years ago that had gone above the ten cent fare level, the groups of companies—our own included—which had gone above that level in these past five years, and the continued absence of Canadian companies from that class, it gave me the unpleasant feeling that we perhaps are doing some pioneering for you. We all remember during the war the convicts in penal institutions who were given an opportunity to experiment as laboratory guinea pigs with new remedies for malaria and jungle fever, to see whether those remedies would be fit to administer to



Morris Edwards,
President, Cincinnati Street Ry. Co., and President, American Transit Association.

our soldiers and sailors fighting in the South Pacific. In our exploration above the ten-cent fare level we may be doing a little laboratory work for you. At any rate, the results will be available when and if you ever have to face the doing something of that sort. For the most part, though, we have been in the situation of the convict; we have been doing this experimenting without too much hope of reward and with scant prospect of commutation of sentence.

One who in this kind of a position has been given the opportunity to go to a succession of meetings at which earnest transit executives are discussing their problems, cannot help but be impressed by two of the industry's characteristics. One is that, differing from almost any other industry of which I have ever had experience, this is peculiarly an industry in which the local enterprises are in no way competitive with each other except perhaps to the extent that the negotiators of union contracts use the precedent of one property to the disadvantage of another in urging a settlement in another city. That permits a closeness of interchange of information and certainly a freedom of discussion of common problems such as I have never seen equalled in any other industry.

The second and related characteristic has been the difference in relationship between public and private enterprises as they exist along side each other in this industry as compared with the more or less dog-and-cat relationship between public and private companies in other lines of industry. I believe that the reason for this sympathetic bond between the public and private transit enterprises is that fundamentally they both must meet the same tests of survival. Except in the very unusual situation of New York, public transit enterprises have to be self-sustaining and self-financing. They do not have access to the general faith and credit bonds and tax resources of the municipalities in which they operate. The tests of success and continuance which the public companies have to meet are to all practical intents and purposes identical with those which the private companies have to meet. Both have to generate the money to meet their payrolls and operating costs, to depreciate and provide for the replacement of equipment and facilities which have represented capital investment, and to set up the reserves on surpluses with which to finance the major improvements which will be required if we are to face an era such as your President envisaged in a growing Canada, with cities of growing size and population, and with transit services of growing importance and service to their communities.

Now that means, just as we faced it a little earlier in the United States, that these enterprises, whether public or private, must be put on a basis of profit, which will permit them either to generate their own requirements of new capital or at least present a balance sheet and an operating statement which will qualify them for access to adequate new capital on reasonable terms. That is the decisive and critical point at which both our situations must be approached. When all is said and done, the adequacy or inadequacy, the success or failure, of an individual enterprise or of a group of enterprises comprising an industry, are determined by its access to new capital to extend or develop its facilities.

What does the record show in that respect? A few years ago I made a study of what had been the experience of both American and Canadian companies in respect of access to new capital. One thing which immediately stood out was that those transit enterprises which were allied with electric power companies had to be excluded

from the study because their access to capital was determined by the status of the electric enterprise rather than by what the transit enterprise was able to do on its own feet. With the enquiry confined to the transit enterprises which had to respond to the normal tests of access to credit in their own right and on the basis of their own record, it was not a very impressive showing. Indeed, it was a very lugubrious one. The bonds and senior securities of most transit companies were quoted below par. There had not been a successful open market offering of new transit equity securities in the general capital market. The equity securities of most companies were selling at a sharp discount below par. Even during this period of governmentally-induced easy money and low interest rates of the past eight to ten years, when almost all other kinds of enterprises were refinancing their long-term obligations on very much more advantageous terms, the access even to refunding capital for transit enterprises had been very limited; indeed, it had been confined to ten or fifteen companies, out of the hundreds operating on the continent; most of these refundings had been accompanied by reductions, and in no cases had been accompanied by increases, in the total amount of indebtedness outstanding — and the terms on which even refunding senior capital was available were relatively severe.

To me those facts stated the accumulated history of the industry. They brought into focus the problems we have to face in the period ahead. All of us in the United States have reacted just as vividly as has Mr. Furlong to Colonel Bingham's glimpse of the future, and yet, one must ask: what is going to be the availabilty of capital for transit enterprises and what are the terms on which capital, if any, is going to be available? As one tries to reason through Colonel Bingham's visualization of the controlling of private automobile movement in the central sections of our great cities, for that to be publicly tolerable it certainly would call for a tremendous improvement in the convenience, speed and comfort of available transit facilities. The provision of any such improvement in facilities goes right back to this age-old question of the availability of capital to the industry. Likewise, with private automobile traffic being restricted at rush hours, how many transit systems as they exist today would, even on a year's notice, be prepared physically to accommodate the entire peak-hour traffic of their respective communities if they were denied the supplementary accommodation today provided by public automobiles?

As all of us know, such an increase would call for more of those vehicles which are at least profitable to operate, the ones used for relatively short periods of the day, the marginal units for which we find it most difficult to provide profitable employment and return on the capital involved.

I am a relatively new arrival in this industry. I have tried to study as matters of record events which you have lived through as matters of actual experience. As I study the past, taking the industry as a generality, it was only in the period before the first World War when transit enterprises even possibly could be said to have met the tests which today would be applied to them if they were applicants at the counter for the obtaining of new capital.

Those were the days, at least in the United States, of preponderantly rail operation, the five-cent fare, labour at fifty cents an hour or less, standards of service as to speed, loading, comfort and convenience very measureably below those which the population of a modern city would regard as even approaching adequacy. And yet, as you look at the financial histories and records of earnings and dividend payments of particular properties in the years prior to 1916 or 1917, and then study them in the light of subsequent events, you are inclined to wonder just how accurate and meaningful the figures were; whether a lot of what were defined as earnings and distributed as dividends, even during the halcyon period of thirty-five years ago, were not more truly depreciation increments and retirement reserves which were wrongly carried to the surplus account. At least, the consequence was that immediately, in the next succeeding era of higher wages, higher other costs, and higher fares, there was the spectacle of widespread receiverships, bankruptcies, and write-downs of capital. They were simply a confession that the depreciation and retirement reserves accrued during a prior period did not prove adequate to the exigencies to which they were later subjected.

So, one can only say possibly, not certainly, that there was a time even as far back as thirty-five years ago, when, taken by and large, this industry was profitable and met the tests to which any industry must respond if it is to have access to capital in the quantities required for its healthy existence and for its energetic and vigorous expansion for the future.

We are all familiar with the evolutions which have occurred since World War I. There was the rise of the motor coach, the development of the trolley bus, the gradual reduction of electric rail service, the steady advance of labour costs, and the gradual movement from five-cent to ten-cent fares. Yet throughout this evolution, about the most one can say on the favourable side of the ledger is that the industry has never been at any level much better than having a tender and precarious balance between income and outgo.

In other words, there has not been a period, with the possible exception of the recent war, and that largely limited to the municipally-owned properties not subject to excess profits taxation, in more than a quarter century, perhaps in a half century, when there has been any substantial accumulation of reserves available for other than mere renewal and replacement of existing facilities. There has been nothing available for marked expansion or great development or improvement of these facilities. It has been an industry that from a financial standpoint has always been on the ragged edge of crisis. I cannot see that the situation, taken by and large, is today very measurably different from that.

There are, of course, numerous exceptions. But even as one studies the exceptions at a given time—and the exceptions do not often last over long periods of time—it is because a particular property, whether public or private, has at least for a limited time been able to enjoy some pronounced differential advantage in respect of some one or another of the major components of cost. You may find a property that by some process of mesmerism has been able to enjoy a measurably lower labour cost than that of comparable properties in its vicinity. You may find a situation, and this is a more lasting factor, in which a city is so laid out and has so developed that it enjoys a very much higher density of population per square mile, with resulting shortness of routes, shortness of rides and increased numbers of available passengers per mile of vehicle operation. You may find another property which, for a brief period, has been the fair-haired boy of a public service commission, which has allowed fares and revenues markedly more advantageous than that enjoyed by nearby properties, and which accordingly has permitted it to have a little more financial fat stick to its bones over a short period. But those are interesting studies because they are exceptions and not because they are generally the rule.

As I have gone back over the papers delivered at sessions at the American Transit Association five years, ten years or twenty-five years ago, there is a similarity of topic and subject matter which would permit almost any of the more experienced men in the industry to come into any meeting, on any day of any year, listen to what any speaker is saying for five or ten minutes, and have a feeling one sometimes has at a movie "This is where I came in."

With the exception of discussion at one time or another of technicological advances in the industry, and they always seem to attract the most avid curiosity of transit executives, the cycle of discussion has been confined to levels and methods of collection of fares, revenue structures and accounting practices, and the wage rates and

other provisions of labour contracts, the rightness of schedules, and the cutting of runs to fit the union contracts. And, though Mr. Hecker grinned a bit self-consciously when he said it, as if he had come upon some really new discovery, the idea that there should be more emphasis on selling in transit is a familiar topic in the proceedings of twenty-five years ago.

In other words, the problem, essentially a financial one, has not changed greatly in its fundamentals over the years. Ours has been an industry that, for the most part, with little ups and downs, has been characterized by a tender and precarious financial situation. Its very existence has been an immediate challenge of survival to management. I think that is why there has always been realistic, aggressive-minded management in this industry, not because of any special virtuosity, but just because it had to be that way if it was going to survive.

The remedies that for years have been discussed for this financial problem have had, as I remarked, a sameness about them. The problem has always been to break the vicious circle of the delicate, if not precarious balance between the fare and traffic factors on the one hand and the labour, materials, depreciation, profit, surplus and reserve costs on the other. The balance has never been one which swung widely, as it did in the General Motors Corporation, permitting it over a quarter of a century to develop into the world's greatest financial corporation largely from the capitalization of its own earnings rather than from access to new capital.

This leads to the one principal point I should like to try and leave with you today. It is that into this old cycle of problems and familiar remedies there has been introduced in the past few years—or there has been accentuated in the past few years—one new dimension. It is the growing recognition that the private automobile, and its resulting traffic congestion in the centres of our cities, has given the transit industry a new importance. The automobile, instead of destroying the transit industry, has invested it with a new, primary public significance. This industry can ease—more economically than any other means—the plague of the cities, namely, the paramount need to find relief from the paralysis of traffic congestion, and to avoid the destruction of central real estate values for tax purposes.

Thus along with your own problems as an industry, and our own remedies to deal with those troubles, it seems to me that we should be aware of our being invested with an always increasing degree of public significance and public importance as a very necessary and promising tool to deal with the most stubborn, fundamental problem which modern industrial communities have to face. If we are to achieve the fulfillment of our destiny as a public instrument for dealing with traffic problems, we must shake ourselves. We cannot just sit supinely in our present situation and say, "They have come to us." The public, at least in American communities, is much too stubborn and is much too convenience-minded ever to be content to turn over its destinies to an industry that is anything less than alert, energetic, forward-looking and improvement-minded in the development of its own affairs.

It seems to me that this brings us back to the place of beginning. To fulfill our destiny, our industry must be alert, imaginative, sales-minded. It must resort to its old time-tried methods of reducing costs, improving service, tailoring its service to the needs of modern communities. It must shed its diffidence, its anonymity, and tell its story to its communities in terms which are sincere, authoritative, and constructive in terms of the development of modern communities of the future. But, when the reckoning is cast up, all of these hopes are idle words, all of these possibilities are futile aspirations, unless this industry achieves, and is helped by public authorities to achieve, a sound financial basis. That kind of basis must visualize not merely meeting operating costs, not merely earning minimum depreciation for replacement of worn-out assets, not merely earning a bare investment return for existing capital, but accruing the earnings and reserves which will leave something for the modernization and imaginative development of the transit service of the city of the future. That is our challenge. That is our opportunity. That is our future of usefulness.

B.C.E.R. Co. Man Leads Korea Brigade

The honor of leading Canada's brigade destined for action in Korea has come to a Vancouver man, a British Columbia Electric Ry. Co. executive who emerged from the second world war as one of the army's most brilliant young commanders, in the person of Brig. John M. Rockingham, C.B.E., D.S.O. and Bar. In the service of B.C.E.R. Co. and its subsidiaries, Brig. Rockingham was earning rapid promotion, until General Charles Foulkes, Army Chief of Staff in Ottawa, asked him to take command of the new force. Brig. Rockingham said that the call from Ottawa was a complete surprise to him and that he felt deeply honored. He left for Ottawa without delay.



Brigadier John M. Rockingham, C.B.E., D.S.O. and Bar,
Prior to assuming leadership of the "Korean Brigade", Brig. Rockingham was Division Superintendent of Pacific Stage Lines, B.C.E.R. Co. subsidiary.

Commenting on the new development, President A. E. Gruaer of the B.C.E.R. Co. said:—"I would like to congratulate Brigadier Rockingham on his new appointment. It's a high tribute not only to his military skill and experience, but also to his general qualities of leadership that he should be picked for this important post.

"We much regret losing his services, but we're very proud of him and of course we're granting him leave-of-absence until the emergency is over. We're hoping for his early return to the Company."

Brig. Rockingham already has behind him an outstanding record of accomplishment. Born and educated in Australia, he came to Canada in 1930 and landed a brush-cutter's job with the B.C. Electric line department in Victoria three years later.

By 1939 he was foreman of a labor gang and for a time was assistant superintendent of the department.

Meanwhile, he had earned a reserve commission as a lieutenant in the 1st Battalion, Canadian Scottish Regiment.

Going overseas with the Third Canadian Division, Brig. Rockingham's rise was steady. By D-Day, 1944, he was a brigadier and commanded the 9th Canadian Infantry Brigade in the final assault on Bologne.

He and his unit then wheeled east, fought across France, Belgium and Holland, and took part in the Battle of the Scheldt Estuary. He led the first Canadian troops across the Rhine in the final weeks before V-E Day.

With the war in Europe ended, he was ordered home to take command of a brigade in the Canadian Army Pacific Force.

Since the war, he has commanded the 15th Canadian Infantry Brigade

and took part in the joint Arctic manoeuvres last year.

Brig. Rockingham's military experience gave him a solid background for the new job awaiting him when he returned to the B. C. Electric in Victoria. As Supervisor of Employment and Rehabilitation, he helped many a returning veteran over the hurdle and back into civilian life.

A year ago last January he was transferred to Vancouver as a "trouble shooter" for Ivor W. Neil, B.C.E.R. Co. General Manager of Transportation.

Recently he was named Division Superintendent of Pacific Stage Lines, one of the top posts in the bus company.

Brigadier Rockingham is married and has two children.

T.T.C. Buys Cincinnati P.C.C. Cars

A deal conferring benefit upon all concerned has been concluded, whereby the Toronto Transportation Commission has purchased from Cincinnati Street Railway Co. 52 P.C.C. cars, of both all-electric and air-equipped type.

The Toronto Transportation Commission has purchased from the Cincinnati Street Ry. Co., 52 modern P.C.C. street cars in good condition, similar to those now operated in Toronto.

The Cincinnati property has decided to discontinue electric railway car operation entirely, and has for some time been replacing street cars by other forms of transit equipment.



One of the All-electric P.C.C. Cars Purchased by Toronto Transportation from Cincinnati Street Railway Co.

Because of increases of over 100% in passenger carrying since 1939 due to the war and postwar expansion of business in Toronto, the Toronto Transportation Commission is still operating some of the old wooden cars taken over from the Toronto Railway Company, and has been making every effort to replace them with modern vehicles. To this end the Commission has bought 200 new P.C.C. cars since 1945 and has still on order 50 more P.C.C. cars, but unfortunately cannot obtain delivery of them before the opening of 1951.

It was decided, therefore, to take advantage of this opportunity to purchase good used cars from Cincinnati, which are available for immediate delivery and can be put into service before next winter, and abandon the use entirely of any of the Toronto Railway cars.

The purchase of these cars will effect a saving in foreign exchange of over $150,000, as compared with new cars, and will also save much steel, copper and other materials which are also in critical demand.

The purchase of these cars is another effort on the part of the Commission to improve its system and to render better service to the citizens of Toronto. When all cars now on order are delivered the Commission will have 591 P.C.C. cars of the most modern type in operation.

Transit Revenues, Expenses, Etc.

(Managements' Figures)

Calgary Transit System

June:—	1950	1949
Revenue	$ 164,842.58	$ 155,039.88
Expenditure	118,457.09	125,033.11
Operation surplus	46,385.49	30,006.77
Total surplus	12,335.58	7,762.66
Revenue passengers	2,350,800	2,201,171
Jan. 1-June 30:—		
Revenue	$1,034,926.81	$ 911,869.14
Expenditure	783,485.19	679,868.36
Total surplus	44,848.60	99,454.59

Edmonton Transit System

June:—	1950	1949
Revenue	$ 202,006.70	$ 209,405.49
Expenditure	160,355.68	170,563.05
Operation surplus	41,651.02	38,842.44
Total surplus	*2,981.71	*3,426.86
Revenue passengers	2,818,912	2,801,241
Jan. 1-June 30:—		
Revenue	$1,344,842.80	$1,246,301.08
Expenditure	1,030,093.94	1,011,406.16
Total surplus	49,145.68	*18,214.39

*Deficit

Regina Municipal Railway

June:—	1950	1949
Revenue	$ 60,327.58	$ 60,212.78
Expenditure	44,032.42	45,418.90
Operation surplus	16,295.16	14,793.88
Total surplus	*5,209.36	*3,344.77
Revenue passengers	966,746	984,025
Jan. 1-June 30:—		
Revenue	$446,957.28	$432,871.53
Expenditure	294,362.75	382,263.34
Total surplus	3,300.44	*58,223.65

*Deficit

Saskatoon Transit System

June:—	1950	1949
Revenue	$ 38,102.93	$ 39,076.61
Expenditure	33,004.50	33,677.65
Operation surplus	5,098.43	5,398.96
Total surplus	*6 367.29	*6,889.41
Revenue passengers	9652,332	666,438
Jan. 1-June 30:—		
Revenue	$307,801.79	$310,719.27
Expenditure	224,293.86	202,337.70
Total surplus	10,013.67	29,899.77

*Deficit

Winnipeg Electric Co. Traffic

In July, Winnipeg Electric Co. carried 6,346,498 revenue passengers, compared with 6,723,433 in July, 1949, a decrease of 376,935, or 5.6%



One of the Air-equipped P.C.C. Cars Purchased by the Toronto Transportation Commission from Cincinnati Street Railway Co.

Mainly about Transit People

Hugh H. Logan, whose appointment as Division Superintendent, Interurban Railway Lines, British Columbia Electric Ry. Co., New Westminster, B.C., was recorded in our April issue, page 186, was born at Victoria, B.C., and educated at Vancouver and New Westminster schools. He joined the company at New Westminster in 1911 as clerk, and subsequently served as follows:—1919, freight and yard clerk; 1927, Station Agent, Huntington, B.C.; 1929, Assistant Freight and Passenger Agent, New Westminster; 1935, Train Dispatcher, and 1947, Trainmaster, New Westminster. Mr. Logan served overseas for three years with the 7th Canadian Infantry Battalion in World War I.

Donald C. Martin, whose appointment as General Superintendent of Transportation, New Westminster, British Columbia Electric Ry. Co., was announced in our April issue, page 186, was born at Moose Jaw, Sask. Upon graduation in civil engineering from the University of Manitoba in 1935, he joined the C.P.R. as a transitman, serving at Edmonton and Calgary, Alta., and at Revelstoke and Vancouver, B.C. Later he became Roadmaster at Yorkton, Sask., and between 1943 and 1945 was Division Engineer at Brandon, Man. In 1946 he joined the B.C.E.R. Co.'s Vancouver office as Assistant Engineer of Way and Structures, becoming Engineer the same year, and, in 1948, Superintendent of Railway Maintenance. Mr. Martin is a member of the Association of Professional Engineers of the Province of British Columbia and of the Engineering Institute of Canada.

Jean Paul Page, whose appointment as Superintendent, Transit Division, Quebec Ry., Light and Power Co., Quebec, was recorded in our July issue, page 399, was born at Knowlton, Que., July 28, 1914, and educated at the University of Montreal, where he secured both the B.A. and B.A.S. degrees. In October, 1946, he joined the Quebec Power Co. as Assistant Director of Sales at Quebec, and in August, 1947, he became Assistant to the Superintendent, Transit Division, Quebec Ry., Light and Power Co., at Quebec.



Hugh H. Logan,
Division Superintendent, Interurban Railway Lines, British Columbia Electric Ry. Co.

H. Blake Rowson, whose appointment as Division Superintendent, New Westminster Bus Lines, British Columbia Electric Ry. Co., was recorded in our April issue, was born at New Westminster, B. C., and joined the Company as a trackman in 1932. Later, he served as a groundman in the company's line department, but in 1935 was moved back into transit as an interurban conductor and bus operator, remaining there until 1941, when he became depot clerk in the trainmaster's office. In 1944 he was appointed Assistant Trainmaster.



Donald C. Martin,
General Superintendent of Transportation, New Westminster, British Columbia Electric Ry. Co.



Jean Paul Page,
Superintendent of Transit Division, Quebec Ry., Light and Power Co., in which position he succeeded J. H. Levasseur, who retired recently after more than 50 years of service with the company.

A.T.A. Safety Awards

Twenty-two transit companies throughout the United States were honored in Washington on June 7 by the American Transit Association for outstanding passenger and traffic safety records during 1949.

Julien H. Harvey, Managing Director of the Accident Prevention Dept., Association of Casualty and Surety Companies, and chairman of the Associations' award committee, made the presentations to winners.

In introducing Mr. Harvey, Guy C. Hecker, Executive Manager of the Association, cited the unusual safety records being made by transit companies despite rapidly mounting totals of all types of passenger and commercial vehicles on city streets. This is attributable, he said, to the improved selection of personnel, intensive training, retraining and supervision, and careful maintenance throughout the industry.

In support of the statement, Mr. Hecker pointed out that the 22 award-winning companies showed a 15.1% decline in 1949 traffic accidents as compared with 1948.

Top awards in each of the population groups set up under the Association's annual transit safety competition were presented to the following six companies:—

Capital Transit Co., Washington, D.C., Group I—serving over 600,000 urban population; San Diego (Cal.) Transit System, Group II—250,000 to 600,000 population served; South Car-



H. Blake Rowson,
Division Superintendent, New Westminster Bus Lines, British Columbia Electric Ry. Co.

olina Electric & Gas Co., Columbia, S. C., Group III—100,000-250,000; Springfield (Ohio) City Lines, Inc., Group IV—30,000-100,000.

Top honors in Group V, which includes companies serving both urban and suburban populations of 30,000 and over, were shared by Philadelphia Suburban Transportation Co., Upper Darby, Pa., and the Bergen Division, Public Service Coordinated Transport and Interstate Transportation Companies of N.J.

A new "Special Citation" was presented to Oshkosh (Wisconsin) City Lines, Inc., for outstanding reduction in traffic accidents. The Oshkosh company cut its '48 total by 62% in 1949. A second "Special Citation" was awarded to Georgia Power Company of Atlanta for showing a 43% decrease in passenger accidents during 1949 as compared to the previous year.

Also recognized for high achievement with Certificates of Honorable Mention, were the Chicago Transit Authority and Detroit's Department of Street Railways— Group I; New Orleans Public Service Inc. and Birmingham Electric Co.—Group II; Evansville (Ind.) City Coach Lines and Savannah (Ga.) Transit Co.—Group III; Hamilton (Ohio) City Lines, Inc.—Group IV; and The Dixie Traction Co., Covington, Ky.—Group V.

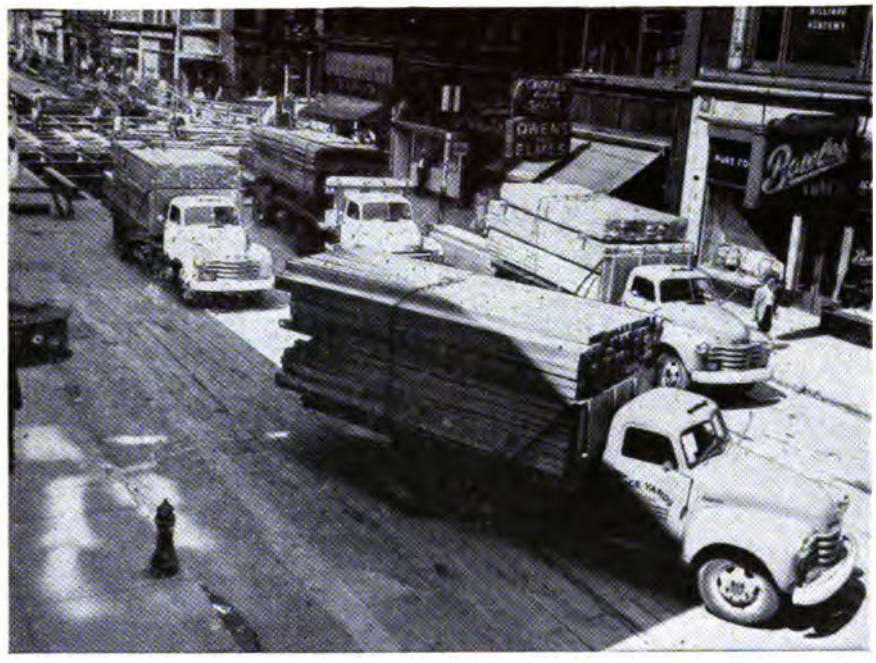
Greatest improvement during 1949 in their respective population class was shown by four companies, each awarded a Certificate of Merit. They were Baltimore Transit Company, Harrisburg Railways Company, the Stamford Division of the Connecticut Company and the Meriden Division of The Connecticut Company.

Special Merit Certificates, given for a combination of high achievement during the year 1949 and the greatest improvement over 1948, were presented to the Dayton-Xenia Railway Co., of Dayton, Ohio, and Colorado Springs Transit Co.

Toronto Subway Construction

Good progress continues to be made in the Toronto subway construction programme, the following summary describing the situation as it existed at mid-August.

On contract S1, excavation of the intermediate level on the east-west section along the line of Front Street, east from York Street, was continuing, and had reached a point 130 ft. east of Bay Street. On the portion of this contract along the line of Yonge Street, work was continuing on the intermediate and final lift excavation on Yonge Street. The pouring of the concrete invert slab on this contract commenced July 14, and some wall bases had been poured north of Wellington Street. At mid-August about 200 ft. of the invert had been laid.



Lumber for the Toronto Subway Job
Lumber and timber in huge quantities are required for the Toronto subway project, and in the illustration above three three-ton Chevrolet trucks and a GMC series 450 unit are shown making a delivery to the excavation at Yonge and Richmond Streets.

On contract S2, the route on Yonge Street from Queen Street to Richmond Street had been excavated and decked over, and center and side walls were being poured at the rate of one section each working day. Pile driving was in progress northerly from Dundas Street.

On contract S2A, underpinning continued, with the work on 17 of a total of 22 buildings completed to mid-August.

On contract S3, pile driving was continuing and had reached a point south of Dundonald Street. Top lift excavation had been begun between Alexander Street and Maitland Street, with the work consisting of the removal of brick rubble and earth to a depth of from three to five feet, to reduce the grade and to permit of the driving of 40 ft. piles.

On contract S4, the work undertaken consisted of excavation for the laying of permanent sewer lines between Severn Street and Crescent Road. The top soil in this area is being removed and stored.

To mid-August, no work had been undertaken on contract S5.

The subway construction work is requiring a great deal of lumber and timber, and the accompanying illustration shows the hauling of lumber to the scene of operation by Chevrolet and GMC trucks operated by Price Yards, Ltd. The units shown are three three-ton Chevrolets and a GMG series 450, and they are shown making a delivery to the excavation at Richmond and Yonge streets. These trucks have dual-purpose axles and are equipped with 9.00 x 20 tires, 10-ply and 12-ply. Price Yards, Ltd., operates mills at Senneterre, Que., and Berry Mills, N.B., and maintains yards at Toronto, Scarboro, Hamilton, London, Whitby, Oshawa, Moncton and Buffalo. Its fleet of 25 Chevrolet and GMC trucks hauls between 55 and 60 million board feet of Canadian lumber annually.

T.T.C. Equipment, Construction, Etc.

Recent official advice is that the Toronto Transportation Commission has furnished, for car builders and suppliers, preliminary specifications covering the cars which are to be operated on Toronto's rapid transit system, now being built.

Beginning August 13, the Harbord electric railway route in Toronto was restored to normal, with the east-west cars crossing Yonge Street on Dundas Street. Because of subway construction activities, this route had been split into two sections, an easterly one and a westerly one, on July 16.

Commission forces have completed reconstruction of the tangent track on Shaw Street, between King Street and Queen Street, in west-central Toronto, and the track was opened for traffic on July 31. Also, Commission forces have completed reconstruction of special trackwork at the intersection of Dundas Street and Howard Park Avenue, in west Toronto, and traffic was resumed on July 28. Also, reconstruction of special trackwork at College Street and McCaul Street, which was begun on July 26, was completed August 4, when traffic over the section was resumed.

The Commission's contractors are making splendid progress on subway construction work along the line of Yonge Street, and on the short section along the line of Front Street, between the foot of Yonge Street and the Toronto Union Station. A description of the proposed subway cars appeared in our February issue, beginning on pg. 84.



Record-breaking Bus Order

The Chicago Transit Authority, on July 31, ordered 500 51-psgr., propane-powered buses from Twin Coach Co. With price per bus $16,235, value of the order is $8,117,500.

An order for 500 51-passenger, propane-fueled buses was awarded the Twin Coach Co., of Kent, Ohio, by the Chicago Transit Authority, on July 31. The price of each bus was $16,235, for a total value of $8,117,500. This is believed to be the largest bus order ever placed by a transit system.

The order marks the first large entry of high octane propane-powered vehicles into the urban transit industry. It is also said to herald a new era in public transportation, in that it forecasts eventual replacement of gasoline and Diesel-fueled buses by propane-powered vehicles. L. J. Fageol, Twin Coach Co. President, announced America's first standard line of propane buses on March 30 of this year. Twin has since conducted demonstrations in over 100 cities, including Chicago. Other recent buyers of propane-fueled Twins include Wichita, Los Angeles and Fort Wayne.

Propane, a by-product of the petroleum industry, is approximately one-half the cost of gasoline and, depending upon the locality, costs from 10 to 40% less than Diesel fuel. Its use is reported to effect bus fuel savings up to 2 cents per mile. Other advantages claimed are 50% increased time between engine overhauls, easier starting, faster acceleration, improved engine performance and the elimination of obnoxious exhaust odors and smoke. Propane is odorless and colorless.

More than 15 years of constant propane research was conducted by the Twin Coach Co. before the introduction of its propane line, according to President Fageol. In 1945 the company announced the Fageol Twin Coach engine, a lightweight, highly efficient power plant capable of operating at a 10 to 1 compression ratio. This engine, producing from 180 to 210 h.p. in its various models, is the only motor coach engine expressly designed for high octane propane. Its use now gives Twin Coach a tremendous operating advantage in the propane bus field, Mr. Fageol said.

Coincident with placement of the Chicago order, F. R. Fageol, Twin Coach Board Chairman, and Ralph Budd, chairman of the Chicago Transit Authority, appeared on radio and television programmes in Chicago. Both broadcasts paid tribute to Mr. Fageol's many contributions to the transit industry. Founder of the Twin Coach Co., F. R. Fageol introduced the first engine-under-floor bus in 1927. This is recognized as the forerunner of today's streamlined buses and Mr. Fageol is generally regarded as the "father of modern urban bus transportation".



The 51-psgr. Propane-powered Twin Coach Buses for the Chicago Transit Authority Will Be About the Size of the One Shown Above.

The vehicle shown above, which also is propane-powered, is a Twin Coach 52-psgr. bus, one in the fleet of the Asbury Rapid Transit System. Before the American Transit Association annual meeting, scheduled to be held in Los Angeles, September 24-27, was cancelled, plans had been made to have delegates inspect the propane-powered buses in the Asbury fleet. The photograph from which the above illustration was prepared was taken in front of the Biltmore Hotel, Los Angeles, which was to have been the annual meeting headquarters.

Transcontinental Trucking Predicted

In an address before the Transportation Conference of the Canadian Manufacturers' Association, at its recent annual meeting, John Magee, Executive Secretary, Canadian Automotive Transportation Association, predicted that Canada will have transcontinental trucking service when the Trans-Canada Highway is completed. He said that the trucking industry intends to use the highway when it is built, subject to all the regulations imposed by provincial authorities. He stated that the demand for transcontinental freight service by highway had first asserted itself in Canada in the movement of household goods, and added that at the present time there is a pent-up demand for the movement of automobiles from east to west by truck.

Of the federal government's contribution to the cost of building the highway, Mr. Magee said that "it is good to know that the federal government . . . will be making a small return on the huge tax revenues it derives annually from the operators of automotive vehicles."

Declaring that the federal government has benefitted to a startling degree from the development of automotive transport, he said that for the fiscal year ended March 31st, 1949, the government received approximately $100,000,000 in sales, excise and customs imposts on motor vehicles, parts and supplies. Motor vehicles included 487,000 trucks of all kinds.

(Under Canada's Constitution, the British North America Act, tre provinces have exclusive jurisdiction over road transport.)

Mr. Magee stated:—When World War II ended some observers, in taking stock of our transportation sys-

tem, erroneously concluded that the development of the trucking industry had reached its peak. Nothing could be further from the truth. The trucking industry continues in an era of growth and expansion the scope of which, in retrospect, will surprise the nation ten years from now. Every year, the number of trucks and tractor-trailers is increasing. Every year, the trucking industry's tonnage and gross revenues are reaching higher levels. Some 70,000 Canadians are now directly employed by the trucking industry as drivers and terminal workers."

Canadian Good Roads Association

With transfer of headquarters from Montreal to Ottawa, and with a new managing director, the Canadian Good Roads Association plans to expand its activities. The retiring Secretary-Treasurer, Geo. A. McNamee, who established the Association in 1914 and has since been a director, has been made the first honorary life member, in appreciation of his outstanding services

Plans for the expansion of the Canadian Good Roads Association, representing a 300-million dollar yearly industry, were outlined on August 4 by the President, Hon. Errick F. Willis of Winnipeg, who announced the appointment of C. W. Gilchrist, O.B.E., as Managing Director of the national organization.

Mr. Gilchrist, a former chief of army public relations in various war theatres, has been for the last four years Director of Information Services for the Dominion Department of National Health and Welfare. He succeeds George A. McNamee, who founded the Canadian Good Roads Association in 1914 and has been Secretary-Treasurer and a director since that time. In appreciation of his years of service, Mr. McNamee has been awarded the Association's first honorary life membership. The parchment will be presented to him at the Association's annual convention, to be held this year in Winnipeg, September 19th to 21st.

"With the aim of further stimulating and encouraging the improvement, construction and maintenance of roads, the Association was incorporated under Dominion charter in 1917," Mr. Willis said. "Since that time, largely sparked by action of the provinces themselves, the association has accomplished a great deal in the way of public education.

"Now, with the increasing importance of better highways in the peacetime economy of the country — and the vital necessity of adequate road systems in time of war or national emergency — it is intended to enlist all interested individuals, groups and organizations in a co-ordinated programme of activity.

"To this end," Mr. Willis said, "we are inviting representatives of governments at all levels, manufacturers, equipment dealers, suppliers, contractors, the automotive and transport industries, tourist groups, agricultural interests, motor leagues and safety organizations to join forces in a truly national endeavor."

The Trans-Canada Highway was symbolic, Mr. Willis pointed out. The signing of the Dominion-Provincial agreement early this year was another long step toward national unity and understanding.

The headquarters of the association have now been established in Ottawa,



C. W. Gilchrist, O.B.E.,
Managing Director, Canadian Good Roads Association.

Mr. Willis announced, the new managing director having taken over his duties on August 1st. Formerly, the head office was in Montreal.

Mr. Gilchrist, after several years' newspaper experience in the Maritime Provinces and Montreal, including five years as Managing Editor of the Telegraph-Journal and the Times-Globe of Saint John, N.B., joined the Canadian Broadcasting Corporation in a public relations capacity. During the war he served in the United Kingdom, North Africa, Sicily, Italy and Northwest Europe, later setting up the public relations organization for the Canadian Occupation Force in Germany. During the Potsdam Conference in 1945 he headed the British press and communications group. He retired in 1946 as a lieutenant-colonel.

Since then he has been responsible for the Dominion Government's extensive health education programme, carried on in close collaboration with the provinces.

Officers and directors of the Canadian Good Roads Association represent all sections of Canada. They are:— Newfoundland — Hon. E. S. Spencer, Minister of Public Works, and R. M. French, Roads Engineer; Prince Edward Island—Hon. Walter Jones, Prime Minister, and R. G. White, Deputy Minister of Public Works and Highways; Nova Scotia—Hon. M. D. Rawding, Minister of Highways and Public Works (Second Vice President), and R. W. McColough, Executive Assistant to the Minister; New Brunswick—Hon. W. S. Anderson, Minister of Public Works, and A. W. Barbour, Deputy Minister; Quebec—Hon. Antonio Talbot, K.C., Minister of Roads; A. Bergeron, Deputy Minister, and Ernest H. Gohier, Chief Engineer; Georges Leveille, Secretary to the Prime Minister and Director of the provincial Publicity Bureau; Dr. deGaspe Beaubien, C.B.E. (Montreal), President, Royal Automobile Club of Canada; W. O. Bovard (Montreal), Vice President in charge of Sales, Canada Cement Co.; Ontario — T. J. Mahony (Hamilton), Secretary-Treasurer, Ontario Good Roads Association; R. A. Stapells (Toronto), President, Canadian Automobile Association; W. G. Robertson (Toronto), General Manager, Ontario Motor League; Ross G. L. Harstone (Hamilton), Vice President, Canada Crushed Stone Co., Ltd.; F. A. Hogan (Toronto), Manager, Asphalt Sales Department, Imperial Oil Limited; A. R. Morrison(London), Past President, Ontario Motor League; Manitoba— Hon. Errick F. Willis, Minister of Public Works (President); George Collins, Deputy Minister, and Walter J. Kane, President, Kane Equipment Ltd.; Saskatchewan—Hon. J. T. Douglas, Minister of Highways and Transportation (First Vice President); H. R. MacKenzie, Deputy Minister, and W. Beattie Ramsay (Regina), engineer and contractor; Alberta—Hon. D. B. MacMillan, Minister of Public Works (Fourth Vice President), and G. H. N. Monkman, Deputy Minister, British Columbia—Hon. E. C. Carson, Minister of Public Works (Third Vice President), and H. C. Anderson, former Chief Engineer.

Annual Meeting.—The Association's annual meeting for this year, scheduled for Winnipeg, September 19-21, is planned to be the largest and most significant since the war. It will be significant because of the timely items on the agenda, including the following:— The military use of highways in time of war and for civil defence in national emergency; federal aid for road construction; more stringent measures to reduce slaughter on the highways; regulatory control of automotive transportation by federal authority; proper apportionment of highway taxation, and diversion of such funds for other purposes.

All Welded Coach With Leyland Components

With underframe and superstructure of welded steel construction, a series of Leyland Diesel-powered buses operated in Holland present many features.

Accompanying illustrations are of a Dutch-built transit type bus of integral construction incorporating Leyland Diesel power plant and running units. This bus was one of the new vehicles to make its first public appearance at the Amsterdam show recently, and attracted much attention. It was exhibited by N. V. Autra, who market the vehicle in the Netherlands and abroad.

Major running units are those normally used for the Leyland Comet passenger range. They comprise a 5-litre high-efficiency Leyland Diesel engine; 5-speed gearbox with helical gears throughout; hypoid rear axle or, as an alternative, a 2-speed rear axle; two-leading shoe vacuum power-assisted brakes; and 24-volt lighting and starting system.

Built for the well-known Dutch operators, Maarse and Kroon, who operate well over 40 Leylands, the bus exhibited follows the usual transit design in having the entrance forward of the front axle, although the engine is mounted vertically in a normal position at the front. Surprisingly enough, however, the slight protrusion of the engine cowling into the interior of the bus offers no obstruction to passenger flow in the design which has been adopted.

Four models of this type of bus are available, each of which can be supplied with left or right-hand driving controls. Two of the models are 95¾ in. wide and two are 86⅝ in. wide. Each can be offered with one entrance only, or with one entrance and one exit. Seating arrangements vary for 28 to 37 passengers according to the layout chosen. All models have a common wheelbase of 171¼ in. and an overall length over the substantial front bumper of 362$^{3}/_{16}$ in.

Understructure for the buses is entirely of welded steel construction and incorporates the foundation for the bus floor. The superstructure comprises pillars, roof carlines, and transverse and diagonal connecting members welded together with the understructure and reinforced by perforated sheet steel. Aluminum and sheet steel are used for the outer panels and roof.



All-welded Holland Coach with Leyland Diesel Engine



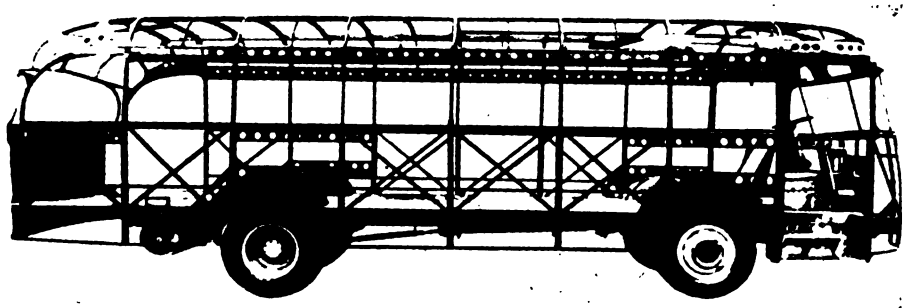
The Holland Coach Interior

Standard interior furnishings include interior wooden side and roof panels tastefully painted, tubular-framed service type seats, fully adjustable driver's seat, and good interior illumination by two rows of domed lights in the roof. Luxury furnishings are available, if desired.

With five large windows and a carefully styled and extremely attractive full front, the bus presents a well-balanced modern appearance. Based on a sound structure and utilizing well tried Leyland units, the "Holland Coach" should be economical to maintain as well as to run.

GMC Truck and Coach Deliveries

During the month of July, General Motors Corporation Truck and Coach Division, Pontiac, Mich., shipped 154 buses, the largest individual shipments being as follows:—To Chicago Motor Coach Co., Chicago, 50 model TDH-5103 city type, 51-psgr.; to Lexington Railway System, Inc., Lexington, Ky., 20 model TGH-3101, city type, 31-psgr.; to Pacific Electric Ry. Co., Los Angeles, Calif., 21 model TDH-5103 city type, 51-psgr. While the great majority of the buses shipped were for U.S. customers, 18 31-psgr. buses were for General Motors Overseas Operations, with an additional chassis for General Motors Overseas Operations at Sao Paulo, Brazil, and two 37-psgr. intercity type buses for General Motors Overseas Operations at Tel Aviv, Israel.



Skeleton Framing of the Holland Coach

Newark Motor Truck Terminal

An illustrated description of the motor truck terminal provided at Newark, N.J., by the Port of New York Authority, appeared in our March issue, beginning on pg. 152, where it was noted that this terminal, to be the largest of its kind in the world, was to open for service about May 1. A cutaway drawing, to show the interior arrangement, as well as the exterior, of the terminal building, appears herewith, and inset is a map showing the ter minal's location in relation to the streets and highways in the area. The new terminal is similar in design to the New York union motor truck terminal in Manhattan, near the Holland Tunnel, which was opened November 1, 1949, and which occupies a site four blocks long. The Newark truck terminal occupies a site of 29 acres, laid out so that there is ample space to handle all trucks loading and unloading at the terminal, as well as those parked for any period of time. The terminal building is 1,174 ft. long and 202 ft. wide, and the freight platform, 1,022 ft. long and 100 ft. wide, is designed to accommodate 160 trucks. Operation began with use of 90 of the truck berths for highway transport units, and 60 for local truckmen, pick-up and delivery trucks, shippers' trucks and connecting line carriers. This leaves 10 berths available for future expansion of the terminal facility. Attention is directed to the overhead dispatch gallery running the full length of the platform. The platform is also equipped with an underfloor chain conveyor system for moving flat trucks.

The method of operation of the terminal was described fully in our March issue article, which also explained the manner in which large savings in truck operation in the Newark area would be effected when the new terminal went into service. An estimate was that local pick-up and delivery trucks in the area have been operating at only 52% efficiency, and the expectation was that this would be increased to 95% when loads are concentrated by zone, following opening of the new facility. Estimated savings per year for local truck operators will be 760,000 truck miles, 4,550,000 tire miles and nearly 150,000 gal. of gasoline.

Use of the terminal is also resulting in lower cost for truckmen serving union motor truck terminal carriers through the handling of peak loads from and to concentrated zones; less congestion in making consolidated pick-ups and deliveries at piers and store door; lower costs for truckmen handling freight for account of shippers and consignees through a single terminal instead of 15 or 20 stops at scattered individual terminals; increased volume of business which will be possible as the result of lower costs and less congestion.

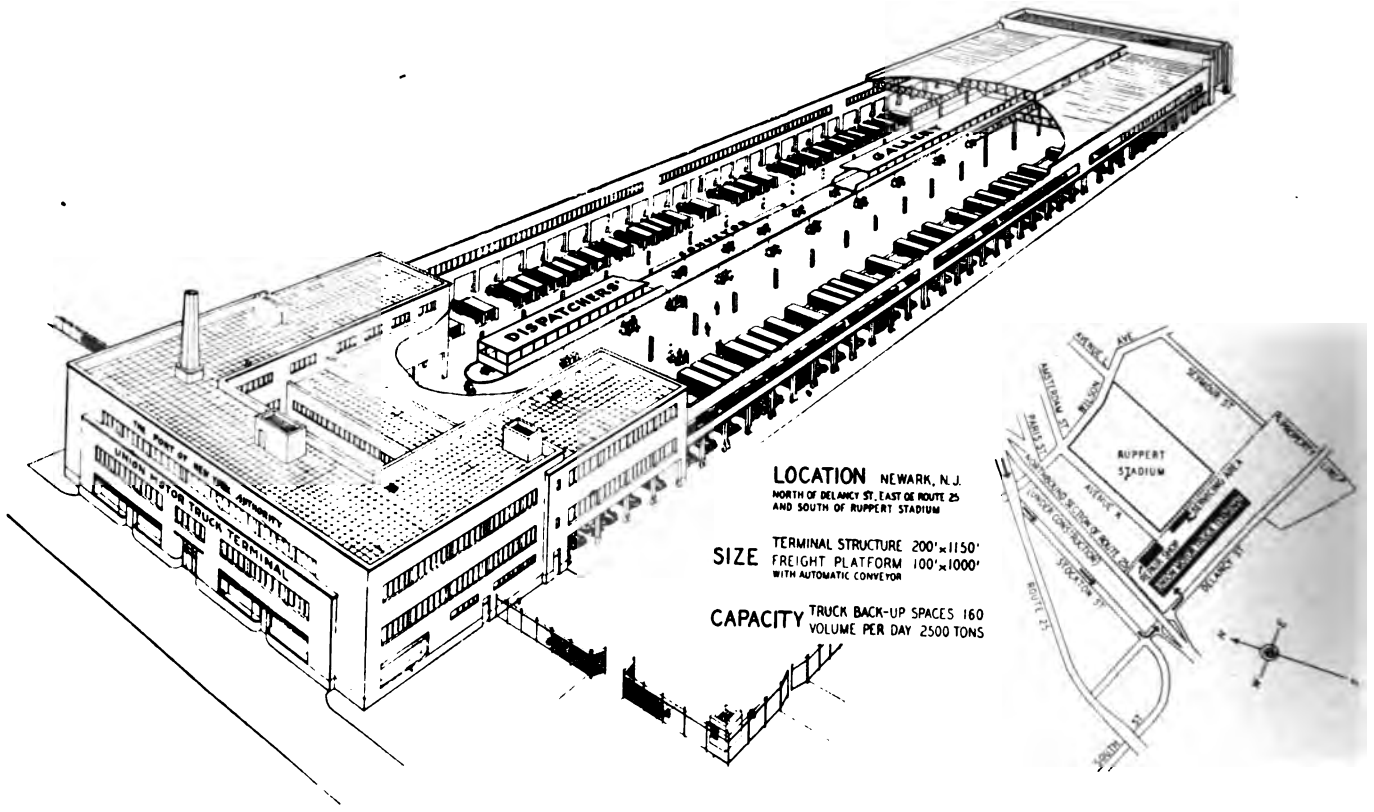
White's New Ottawa Branch

The organization of an Ottawa Branch of the White Motor Co. of Canada, Ltd., under the direction of Charles L. Ware, of Montreal, is announced by the company. Mr. Ware recently relinquished his position as manager of the Winnipeg and Regina Branches to take over his new duties, which will include liaison with the Dominion Government on automotive matters.

Mr. Ware, in his new position, will be in familiar territory, for, during the war, when he was an officer in the Royal Canadian Corps of Signals, he served with the Army Technical Development Board and with the Canadian Legation in Washington. He retired with the rank of major to become general manager of Gardner Equipment Company in Montreal, then engaged in war work. In 1945 he became president of the Gardner Equipment Company, and moved to White two years later, to become assistant to the president. In 1948 he was transferred to Winnipeg as Branch Manager when that office directed White sales and service in Manitoba, Saskatchewan and the Lakehead district.

Reo Deliveries

In the period July 15-August 15, Reo Motor Co. of Canada, Ltd., delivered two model C119, 31-psgr. safety school buses and five model E121, 49-psgr. safety school buses.



Location and Layout of the Newark Union Motor Truck Terminal

Truck Roadeo for British Columbia

A series of contests to be held at the Seaforth Armories in Vancouver, September 22 and 23, will afford the most exacting tests possible for truck drivers.

Recent advice from the Provincial Roadeo Committee, Automotive Transport Association of British Columbia, is that the first annual British Columbia truck roadeo, to be held at the Seaforth Armories, Vancouver, September 22 and 23, will be a drivers' nightmare for participants.

Plenty of thought has gone into the planning for this roadeo; this is shown by the programme for the event, as set forth in the following.

The first two tests are comparatively easy. In the first, the contestant is judged on his appearance and personality. The second test consists of an examination on the driver's knowledge of safe driving regulations.

The field tests are more hazardous and challenging. They test the driver's manual skill and ingenuity.

First test in this series of events is called "Inspection of Equipment Defects". Here the driver must inspect a vehicle as though he were making ready for a trip or tour of duty with the vehicle.

The contestant is judged not only on his ability to locate the defects in the vehicle, but also on the efficiency of his method of inspection.

After completing this test, the contestant chooses, from the equipment on the field, the vehicle he will use in the driving skill tests. With the equipment of his choice, the contender is ready to pit his skill in handling the vehicle against all other entrants.

The skill tests are laid out in such a way as to give a definite sequence. The driver is required to manoeuvre his equipment through a line of four barrels or markers. He is required to move his vehicle through the limited space first to the left and then to the right of a line made by the barrels or markers. He is graded on the number of times the vehicle touches, scrapes, or knocks over the markers and whether or not he keeps his vehicle in continuous forward motion.



Interior of New Twin Coach City Service Bus in Toronto.

This is only the beginning of a series of problematical situations. The next test consists of an offset street or alley problem. Barrels or markers on the "route" are arranged in such a way as to create a path which allows only sufficient space for the vehicle to travel without touching the markers. In this test, the driver is judged by the same means as in the first problem.

In another test the driver must park his vehicle parallel to an imaginary curb between two parked vehicles, or within a given space. In this test the tractor semi-trailer driver must have the semi-trailer parallel to the curb and the tractor at 90 degrees.

Yet another test requires the driver to park his vehicle at an alley dock which is located at the end of a confined space. The vehicle must not touch or bump the dock and must not be farther away than two feet from the dock when the parking is completed.

A knowledge of fire-fighting is also required.

The contestant is required to park his vehicle at the side of an imaginary highway, set out flares to protect his vehicle from accident, and put out a fire.

The "coup de grace" consists of driving the vehicle down a lane which is gradually narrowed to a point where the last set of markers provides only a very small clearance on either side of the truck. As the vehicle comes out of this diminishing clearance lane, the driver must stop the vehicle at a stop line.

As can be perceived by the nature of the events, the champion driver must be one who has skill and efficiency.



One of the 10 Twin Coach Model 44-S, 44-psgr. City Service Buses Supplied Toronto Transportation Commission Recently

New Equipment for Toronto

It was recorded in our March issue, pg. 155, that the Toronto Transportation Commission ordered from Twin Coach of Canada, Ltd., 10 44-psgr. city type buses, and that it had also ordered from the same builder, for its motor coach subsidiary, Gray Coach Lines, 10 model 44-S, 44-psgr. city type coaches and five model 44-S, 45-psgr. suburban type coaches. This equipment has now been delivered, and the accompanying illustrations present exterior and interior views of one of the 44-psgr. city service type buses supplied Toronto Transportation Commission. We hope to present illustrations of the other types of vehicles in early future issues.

Propane-powered Buses For Edmonton

The Edmonton Transit System has ordered from Twin Coach of Canada, Ltd., 10 model 55-S city type buses to be equipped for use of propane fuel. The Edmonton property is already operating a Twin Coach bus, propane-powered; it was one of several buses delivered recently, the others being equipped for use of gasoline as fuel.

No Limit to Propane Supply

The use of Propane fuel by Twin Coach buses was discussed in our July issue, pg.408, where the advantages of this fuel were pointed out. According to a statement made in June by L. J. Fageol, President, Twin Coach Co., the available supply of Propane motor fuel far exceeds any forseeable demand. Mr. Fageol issued his statement in answer to rumors that the widespread conversion to Propane by bus lines in the United States might cause serious shortages of this fuel and result in increased prices.



No Smoke, No Odor, with Propane

Mr. Fageol said that petroleum industry authorities estimate the available U.S. supply of propane at 15 billion gallons annually, and added:—

"By contrast to this figure—if all of the nation's urban buses were to suddenly operate 100% on Propane, their total requirements would be only 625 million gallons annually.

"Addition of this amount to the present U.S. Propane consumption of 2¾ billion gallons yearly would represent a total annual demand of only 3⅜ billion gallons. Obviously, we would still have 11⅝ billion gallons of unused, surplus Propane capacity. It is apparent that the day of Propane shortages and increased prices is still very far off."

Conversion of leading bus lines to Propane is currently proceeding at a rapid rate, according to Mr. Fageol. He stated that the Twin Coach Company now has Propane-powered units on order from ten large operators and that its backlog is increasing rapidly. Among the major transit cities now using Propane are Los Angeles, Wichita, Galveston and Fort Wayne.

In another recently-issued statement, Mr. Fageol said that relief is in sight for pedestrians and motorists who cough and cuss obnoxious bus exhaust fumes, adding that the use of Propane as bus fuel, instead of gasoline or Diesel oil, completely eliminates all of the obnoxious odors commonly associated with bus operation. He pointed out that the exhaust of Propane is colorless and odorless and does not irritate the eyes or nose.

Mr. Fageol stated that the conversion to Propane from gasoline and Diesel fuel is already under way on many leading transit properties, and predicted that 20% of the urban buses in the United States will be using Propane by 1952. Ultimately, he said, gasoline and Diesel buses will be as rare on the nation's highways as horses and buggies.

Mr. Fageol, recognized as the Propane pioneer of the bus industry, has been experimenting with this fuel since 1935, and six years ago introduced the 10:1 compression ratio Fageol Twin Coach engine, which is said to be still the only engine expressly designed for Propane. In April, as noted in these columns, Twin Coach Co. announced the world's first standard line of Propane buses, consisting of seven models of from 34-pasgr. to 58-psgr. capacity.

Fuel Smokeless and Odorless.—The absence of smoke and obnoxious odors in the operation of propane-fueled buses is shown in the accompanying illustration of one of the new propane-powered Twin Coach vehicles of Asbury Rapid Transit System, Los Angeles. In the illustration, W. H. Parmelee, Los Angeles County Air Pollution Control Board Chairman, is shown holding a handkerchief at the exhaust of a propane-powered bus, while R. C. Cale, Assistant Manager, Asbury Rapid Transit System, is an interested spectator. The exhaust from the propane-powered vehicle failed to color the white handkerchief, and no odor was discernible.

Intercity Passengers in U.S.

Intercity bus passengers in the United States last year totalled 438,400,000.

Saskatoon Bus Operation

In April, the buses operated in conjunction with Saskatoon Municipal Ry. earned revenue of $9,309.96, and expenditures, including $416.66 for depreciation and $1,595.17 for the replacement reserve, were $11,608.69, resulting in a deficit of $2,298.73. In April last year there was a deficit of $2,359,98.

In the first four months of this year, the Saskatoon buses earned revenue of $49,774.85, and expenditures, including depreciation of $1,666.66 and $6,333.33 for the replacement reserve, were $50,593.39, resulting in a deficit of $818.54. In the first four months of 1949, there was a deficit of $3,161.65.

In the first four months of this year there were 687,700 motor bus passengers, and bus miles totalled 108,469. Bus hours were 9,429. Revenue per passenger was 6.61c; expenses per passenger, 7.35c; revenue per bus mile, 41.91c, and expense per bus mile, 46.64c.

In May, the Saskatoon buses earned revenue of $8,114.27, and expenditures, including $416.66 for depreciation and $1,583.33 for the replacement reserve, were $10,613.21, resulting in a deficit of $2,498.94. In May last year there was a deficit of $4,041.17.

In the first five months of this year, the Saskatoon buses earned revenue of $57,889.12, and expenditures, including $2,083.32 for depreciation and $7,916.66 for the replacement reserve, were $61,206.60, resulting in a deficit of $3,317.48, compared with one of $7,202.82 in the first five months of 1949.

Bus passengers carried in the first five months of this year were 806,054, and bus miles operated, 135,763. Receipts per passenger were 6.64c; expenses per passenger, 7.55c; receipts per bus mile, 40.32c, and expenses per bus mile, 42.63c.

Lethbridge Bus Operation

In April this year, the buses operated in conjunction with Lethbridge Municipal Ry. earned $12,539.63, and expenditures, including $1,862.65 for depreciation, were $15,961.37, resulting in a loss of $3,421.74. In April last year there was a loss of $1,770.48.

In the first four months of this year, the Lethbridge buses earned revenue of $55,467.14, and expenditures, including $7,450.60 for depreciation, were $57,660.91, resulting in a loss of $2,193.77. In the first four months of 1949 there was a loss of $2,089.05.

In the first four months of this year, the buses carried 988,858 revenue passengers. Bus miles were 143,720 and bus hours, 13,280. Receipts per passenger were 5.61c; operating expenses per passenger, 5.83c; receipts per bus mile, 38.59c, and operating expenses per bus mile, 40.12c.

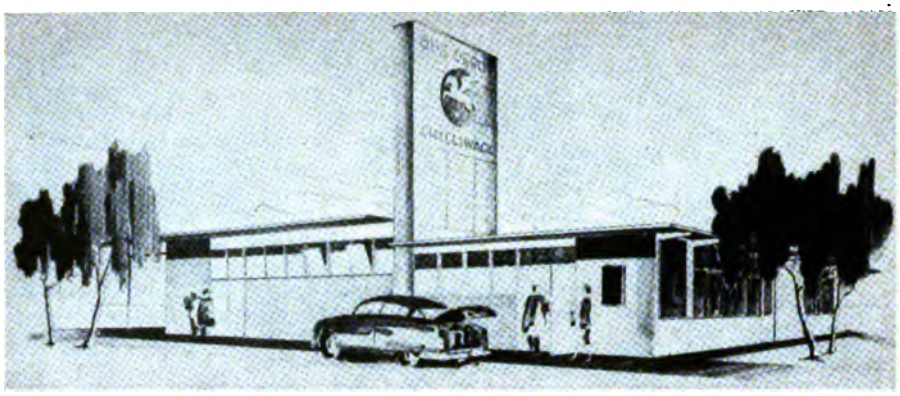
B.C.E.R.Co. New Depot At Chilliwack

Announcement by British Columbia Electric Ry. Co., at the end of June, was that a new $75,000 bus depot and office building is to be erected at Chilliwack this summer and opened for service in the autumn. The general contract for construction has been awarded McKenzie Brothers, Ltd., of Chilliwack, who submitted a bid of $52,000. The balance of the total cost will be absorbed by yard paving and interior fittings. To time of writing, the contracts for this incidental work have not been awarded, but according to J. H. Steede, Executive Assistant to the B.C.E.R. Co. Chief Engineer, T. Ingledow, they were expected to be awarded without delay.

Modern and simple in design, the new terminal forms part of the B.C.E.R. Co. $365,000 programme for the establishment of new depots and expanded office facilities in the chief places in the Fraser Valley. The first structure completed was the $75,000 depot at White Rock, finished last year. The White Rock depot was described and illustrated in our June issue, pg. 351.

The new depot at Chilliwack will contain the offices of L. R. McPhee, B.C.E.R. Co. Chilliwack Branch Manager, and his sales department staff, and will also be the terminal headquarters for Pacific Stage Lines.

The company is to open a new $46,000 terminal in Cloverdale in September, and a $75,000 terminal is scheduled to be built this year at Mission. New depots are scheduled to be built at Abbotsford, Langley Prairie and Haney in 1951, at a total cost of $175,000.



The New Bus Depot and Office Building Being Constructed by the British Columbia Electric Ry. Co. at Chilliwack, B.C.
The illustration, prepared from an architect's drawing, shows the structure as it will appear upon completion.

New Cityliners for Sudbury

The accompanying illustration shows two 33-psgr., two-door Fitzjohn Cityliners built at the Brantford plant of Fitzjohn Coach of Canada, Ltd., largely with Canadian materials and entirely by Canadian labor. These coaches were some of the earliest turned out of the Brantford plant, and were formally handed over to Ed. Carter, proprietor of Local Lines, Ltd., Sudbury, at the formal opening of the Fitzjohn new plant in Brantford, June 9. In the illustration, Mr. Carter is shown beside the two new vehicles; these two coaches bring to 12 the number of Fitzjohn coaches purchased by Local Lines, Ltd., since 1942.

As explained in an earlier issue, the new Fitzjohn Cityliner coach is available with seating accommodation for 35 passengers or for 33 passengers. The 35-psgr. coach has an extra two-passenger seat, provided for by omitting the rear exit door. The 33-psgr. coach has a rear exit door. In these coaches, which are 28 ft. 3½ in. long over all, the body structure is made of sub-assemblies, consisting of the two sides, roof, the front and rear ends, and the substructure, all fabricated on jigs, and interchangeable and replaceable if the need arises. The coach is powered by the Hercules model JXLD six-cylinder, L head engine, which has 339 cu. in. piston displacement and develops 131 h.p., developing maximum torque of 272 ft. lb. at 1,400 r.p.m. The compression ratio is 6.2:1. Improvements in the latest coaches include a restyled front end; wider and stronger bumpers; an attractive aluminum belt rail at the front, incorporating directional lights; recessed installation of headlights; flush mounted, stainless steel radiator grille; inward folding front and rear doors; increased headroom at entrance and exit doors, and light weight but strong aluminum skid rails on the body sides.



Two 33-Psgr., Two-door Fitzjohn Cityliner Coaches Supplied Local Lines, Ltd., Sudbury, Ont. These coaches, among the first produced at the plant of Fitzjohn Coach of Canada, Ltd., Brantford, Ont., were formally turned over to E. Carter, the Local Lines, Ltd., proprietor, at the ceremony marking the opening of the Brantfod plant, in June.

June Motor Vehicle Shipments

In June this year, factory shipments of Canadian-made motor vehicles totalled 41,383 units, compared with 35,281 in May and with 30,096 in June, 1949, according to advice received from the Dominion Bureau of Statistics, Industry and Merchandising Division. The shipments were made up of 11,650 commercial vehicles, viz., 11,518 trucks (10,461 for domestic sale and 1,057 for export) and 132 coaches or buses (all for domestic sale), and 29,733 automobiles (27,499 for domestic sale and 2,234 for export). In addition, there were shipments in June of 2,208 motor vehicles imported from the United States, comprising 435 commercial vehicles (all trucks) and 1,773 automobiles.

Following is the record of commercial motor vehicle shipments in June:—

Maximum Gross Vehicle Weight in pounds	Made-in-Canada Vehicles For Sale in Canada	For Export	Total	Vehicles Imported from U.S.
5,000 and less	5,105	585	5,690	383
5,001—10,000	2,524	54	2,578	11
10,001—14,000	805	188	993	1
14,001—16,000	1,620	230	1,850	..
16,001—19,500	190	...	190	5
19,501—26,000	121	...	121	17
Over 26,000	96	...	96	18
Total Trucks	10,461	1,057	11,518	435
Total Coaches or Buses	132	...	132	..
Total Commercial Vehicles	10,593	1,057	11,650	435

Shipments in First Six Months

In the first six months of this year, factory shipments of Canadian-made motor vehicles totalled 191,765 units, compared with 140,115 and 129,182 for similar periods in 1949 and 1948 respectively. These were made up of 53,201 commercial vehicles, comprising 52,926 trucks (48,342 for domestic sale and 4,584 for export) and 275 coaches or buses (all for domestic sale), and 138,564 automobiles (127,683 for domestic sale and 10,681 for export). There were also shipments of 2,309 commercial vehicles (all trucks) and 8,041 automobiles imported from the United States.

Following is the record of commercial motor vehicle shipments in the first six months of this year:—

Maximum Gross Vehicle Weight in pounds	Made-in-Canada Vehicles For Sale in Canada	For Export	Total	Vehicles Imported from U.S.
5,000 and less	24,065	1,523	25,588	1,766
5,001—10,000	10,791	732	11,523	300
10,001—14,000	3,854	1,265	5,119	1
14,001—16,000	7,221	1,059	8,280	14
16,001—19,500	1,439	...	1,439	14
19,501—26,000	626	5	631	83
Over 26,000	346	...	346	131
Total trucks	48,342	4,584	52,926	2,309
Total coaches or buses	275	...	275	...
Total commercial vehicles	48,617	4,584	53,201	2,309

service personnel from dealerships in the Lakehead-Manitoba territory.

"The new depot will carry inventories of more than 20,000 different service parts, some of which will be stocked to supplement the inventories of present parts depots further west," said Mr. Sale. "We are mindful of the fact that we have nearly 200,000 customers driving Ford-built passenger cars and trucks in the western provinces, as well as thousands of Ford and Fordson tractor owners. The new depot will be an important link between our factory and our 600 dealerships in the west, whose responsibility it is to assist owners of Ford products in keeping their cars, trucks, tractors and implements in efficient operating condition."

is furnished by the accompanying illustration. The trucks shown have been specialized to meet the requirements of Imperial Oil Limited, which company is using them to haul fuel oil to urban and suburban homes. These trucks are the model LF-192, six-wheelers, and the tank body provides capacity for 2,200 gallons. Wheelbase is 193 in. Each truck is equipped with five-speed transmission, overdrive and auxiliary rear axle. The model LF-192 truck has maximum gross vehicle weight rating of 35,000 lb.



Four 2,200-gal. Tank Trucks in Imperial Oil Limited Service.
These are International LF-192, six-wheel units with wheelbase of 193 in.

New Winnipeg Depot For Ford

Recent announcement by Rhys M. Sale, President, Ford Motor Co. of Canada, Ltd., is that a service parts depot is to be built on the western outskirts of Winnipeg, at cost of about $900,000. The new depot will be located in St. James Municipality, just outside the Winnipeg city limits.

Announcement of the new depot follows closely the formation of a new division in Ford of Canada, with George H. Bates as General Manager, to administer its parts and accessories business, which has grown in recent years to ten times its prewar sales volume.

The Winnipeg depot is the latest of three major projects, calling for expenditures aggregating $10,400,000, announced by Ford of Canada last year. Previously mentioned were a $4,000,000 national parts depot at Windsor, and a $5,500,000 programme to expand steam and electrical power facilities at the power house of the company's Windsor manufacturing plant.

Mr. Sale said the Winnipeg depot, with necessary yard space, will occupy ten acres of a 24-acre parcel of land which the company has purchased from the municipality of St. James. The building will be of one story, brick and steel construction. It will provide 75,800 square feet of floor space to accommodate the most modern stock-handling equipment, as well as food catering facilities, a first aid station, offices, and a service school for the advanced training of

International L-Line Trucks at Work

When International Harvester Co. of Canada, Ltd., introduced its new "L-Line" trucks, at the beginning of this year, the features of these vehicles were described in an illustrated article in our February issue, pg. 95. An example of the work being done by the heavier models of these trucks

Canadian Car and Foundry Co. Deliveries

In the period June 15-July 15, Canadian Car and Foundry Co., Ltd., Automotive Division, delivered 23 model IUC-35A, 35-psgr. (suburban conversion) motor coaches to Provincial Transport Co., Montreal; eight model C-36A, 36-psgr., city service transit type buses to The Hamilton Street Ry. Co., and one similar bus to the City of Brantford, Ont.

In the same period, 13 44-psgr. trolley coaches were delivered to Montreal Tramways Co., and 19 48-psgr. coaches to British Columbia Electric Ry. Co.

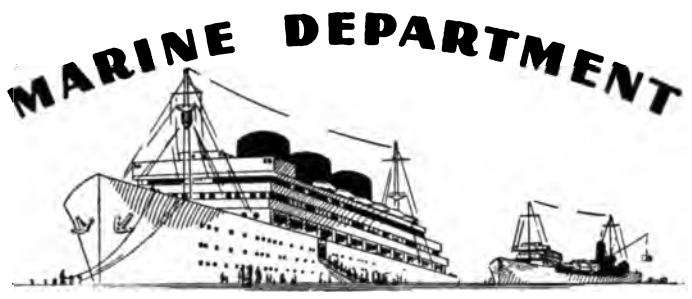
In the period July 15 - August 14, the company delivered a 33-psgr. coach to Rathbun Bus Service; two similar coaches to Brantford Public Utilities Commission, and two similar coaches to McLellan Transport Co., Ltd.

Propane-powered Buses Delivered

Among the first deliveries of new Twin Coach buses powered by 125 octane Propane were six 52-psgr. vehicles for Asbury Rapid Transit System, Glendale, Calif. Twin Coach Co. is now producing Propane-powered buses for some 20 major transit properties.



The New Service Parts Depot of Ford Motor Co. of Canada, Ltd., for the Winnipeg Area. As It Will Appear Upon Completion.
This depot, being built at cost of $900,000, will be in St. James Municipality, just outside the western city limits of Winnipeg.



Vancouver Harbour Experience in 1949

There were more arrivals of deepsea ships at Vancouver in 1949 than in 1948, and total cargo tonnage, foreign and domestic, inward and outward, exceeded that of 1948 and also that of each of the three preceding years. While inward cargo tonnage was below that of 1948, the loss was more than counterbalanced by a large increase in the outward tonnage.

The Harbour of Vancouver, one of the national harbours administered by the National Harbours Board, comes in for its due share of attention in the Board's annual report for 1949. The following review is based on the report's references to Vancouver Harbour activity last year, and to the traffic handled and the financial results secured.

Location and Facilities.—The Harbour of Vancouver, situated in Burrard Inlet on the west coast of British Columbia, with direct access to the Pacific Ocean through the Straits of Georgia and Juan de Fuca, is served by the Canadian National, Canadian Pacific and Great Northern railways, which have connections, either direct or over the terminal railway operated by the Board, to all docks on the north and south sides of the harbour. The entrance channel to the harbour, which is open the year round, has a minimum depth of 35 feet. The Board has 3 piers, a wharf and two jetties, having about 9,500 linear feet of berthing and 6 transit sheds with an aggregate floor area of about 567,000 square feet. The Board's four grain elevators have a total storage capacity of 9,779,500 bushels, a combined loading capacity of about 200,000 bushels per hour and 1½ miles of conveyor galleries. Besides, there are provided storage tanks with a capacity of over 470,000 imperial gallons for the handling of fish and vegetable oils, open wharves, booming grounds and scow pools for the storage and shipment of timber and a special dock with small ice plant and freezing equipment for the processing of fish. A 40-ton fixed derrick is installed on Lapointe pier.

Ship Arrivals and Departures.—Ship arrivals at Vancouver last year totalled 28,482, with net registered tonnage of 13,820,239, compared with 28,947 in 1948, with net registered tonnage of 13,645,274. Departures in 1949 totalled 28,406, with net registered tonnage of 13,834,872, compared with 28,528 in 1948, with net registered tonnage of 13,621,026. Figures on ship arrivals and departures at and from Vancouver in 1949 and the years back to and including 1945 follow.

	Number of Ships	Net Registered Tonnage
Arrivals—		
1949	28,482	13,820,239



A. E. McMaster,
Port Manager for Vancouver, National Harbours Board

1948	28,947	13,645,274
1947	28,946	13,353,027
1946	26,571	11,318,914
1945	24,597	9,824,176
Departures—		
1949	28,406	13,834,872
1948	28,528	13,621,026
1947	28,765	13,406,361
1946	26,689	11,340,763
1945	24,801	9,805,637

(Exclusive of naval craft)

Of the ships arriving last year, 1,052 were deepsea or ocean-going commercial; there were 926 arrivals of such ships in 1948. Of the total of 28,406 departures, 1,058 were of deepsea or ocean-going commercial ships; there were 929 departures of such ships in 1948. Complete details of ship arrivals and departures at and from Vancouver in 1949 and 1948 are provided by the figures in the accompanying table 1.

Cargo Tonnage.—While foreign cargo inward at Vancouver last year (2,156,441 tons) fell below that handled in 1948 (2,307,240 tons)—foreign cargo outward (2,796,757 tons) largely exceeded that of 1948 (2,031,878 tons), with the result that the total foreign traffic handled at Vancouver last year, inward and outward (4,953,198 tons) largely exceeded that handled in 1948 (4,339,118 tons). The domestic cargo tonnage both inward and outward fell somewhat below that of 1948, but the increase in the foreign cargo tonnage more than counterbalanced this decrease, with the result that the total cargo tonnage, inward and outward, increased from 8,962,409 in 1948 to 9,383,223 last year. A complete statement of the cargo tonnage handled through Vancouver Harbour last year and in the four immediately preceding years follows; the tonnage basis is 2,000 lb. weight or 40 cu. ft. measurement per ton.

	Inward (Tons)	Outward (Tons)	Total (Tons)
Foreign—			
1949	2,156,441	2,796,757	4,953,198
1948	2,307,240	2,031,878	4,339,118
1947	2,154,984	2,329,496	4,484,480
1946	1,715,490	2,519,447	4,234,937
1945	1,428,889	1,671,379	3,100,268
Domestic—			
1949	2,945,234	1,484,791	4,430,025
1948	3,123,343	1,499,948	4,623,291
1947	2,949,213	1,527,237	4,476,450
1946	2,663,773	1,345,871	4,009,644
1945	2,688,433	1,203,821	3,892,254
Total—			
1949	5,101,675	4,281,548	9,383,223
1948	5,430,583	3,531,826	8,962,409
1947	5,104,197	3,856,733	8,960,930
1946	4,379,263	3,865,318	8,244,581
1945	4,117,322	2,875,200	6,992,522

(Exclusive of ballast (non-revenue), bunkers, ships' stores, mail and passengers' baggage)

Commodities Handled Through Port.—A great diversity of traffic is evident in Vancouver Harbour. While the principal contributors to tonnage are grain and forest products, huge tonnages of petroleum products, coal, flour, newsprint and paper and cement are handled, together with large quantities of many other products. The accompanying table 2 records the principal commodities and tonnages thereof handled through Vancouver last year, figures being

TABLE 1—Classification, Number and Net Registered Tonnage of Ships Arriving at and Departing from Vancouver, 1949 and 1948

	1949		1948	
	Number of Ships	Net Registered Tonnage	Number of Ships	Net Registered Tonnage
Arrivals—				
Deepsea or ocean-going commercial	1,052	4,410,998	926	3,968,855
Coastal or inland commercial (including fishery)	27,430	9,409,241	28,021	9,676,419
Other				
Total	28,482	13,820,239	28,947	13,645,274
Departures—				
Deepsea or ocean-going commercial	1,058	4,427,280	929	3,966,975
Coastal or inland commercial (including fishery)	27,348	9,407,592	27,599	9,654,051
Other				
Total	28,406	13,834,872	28,528	13,621,026

(Exclusive of naval craft)

given for the inward and outward movement separately and the total movements with comparative figures recording the total movement in 1948 appearing in the final column for purposes of comparison. As before, the tonnage basis is 2,000 lb. weight or 40 cu. ft. measurement per ton.

Passenger Traffic.—Last year, there were 2,933 ship passengers from foreign ports landed at Vancouver, compared with 2,035 in 1948, and there were 3,573 passengers embarked at Vancouver for foreign ports, compared with 2,014 in 1948, making a total of 6,506 passengers to and from foreign ports last year, compared with 4,049 in 1948. In the coastwise traffic, there were 778,194 passengers landed last year, compared with 852,277 in 1948, and 816,534 embarked, compared with 874,818, making a total of 1,594,728 handled in 1949, compared with 1,727,095 in 1948.

Grain Traffic.—Last year there were shipments of grain from the Vancouver terminal elevators totalling 76,391,093 bush., of which 70,294,213 bush. moved via water, 5,945,724 bush. by rail and 151,156 bush. by other conveyance. Shipments were far in excess of those of 1948, when they totalled 42,375,830 bush. Total grain receipts last year were 80,329,012 bush., compared with 41,737,089 bush. in 1948. Thus, total grain handlings last year at the Board's Vancouver elevators were 156,720,105 bush., compared with 84,112,919 bush. in 1948. Particulars of the grain traffic last year and in each of the four preceding years, at the Vancouver elevators, follow.

	Receipts (Bu.)	Shipments (Bu.)	Total (Bu.)
Via water—			
1949		70,294,213	70,294,213
1948		37,396,332	37,396,332
1947		46,892,430	46,892,430
1946	86,016	57,629,111	57,715,127
1945		32,000,960	32,000,960
Via rail—			
1949	80,320,222	5,945,724	96,265,946
1948	41,730,467	4,979,498	46,709,965
1947	53,309,338	6,841,072	60,150,410
1946	62,308,200	8,368,282	70,676,482
1945	34,655,617	8,612,136	43,267,753
Via other—			
1949	8,790	151,156	159,946
1948	6,622		6,622
1947	14,563		14,563
1946	2,290		2,290
1945	22,649		22,649
Total—			
1949	80,329,012	76,391,093	156,720,105
1948	41,737,089	42,375,830	84,112,919
1947	53,323,901	53,733,502	107,057,403
1946	62,396,506	65,997,393	128,393,899
1945	34,678,266	40,613,096	75,291,362

Terminal Railway Operation.—The National Harbours Board operates a considerable mileage of terminal railway in the Vancouver area, and last year there were 19,547 cars, except through cars, received from connecting lines, made up of 11,889 revenue and 7,658 non-revenue. In 1948 there were 9,561 revenue cars received, and 7,882 non-revenue cars, a total of 17,443. Cars delivered to connecting

TABLE 2—Cargo Tonnages, by Commodities, Handled through Vancouver Harbour

Commodities	Inward 1949 (Tons)	Outward 1949 (Tons)	Total 1949 (Tons)	Total 1948 (Tons)
Grain		2,113,348	2,113,348	1,121,772
Logs, Masts, Piling, Pitprops, Poles, Posts, Spars and Ties (railway)	1,091,898	139,614	1,231,512	1,371,207
Petroleum Oil, crude	1,116,881		1,116,881	1,146,562
Lumber (Planks, Boards and Flooring) and Square Timber	448,426	349,201	797,627	898,949
Petroleum Oil, fuel	335,028	303,610	638,638	779,249
Sand and Gravel	458,470	38,755	497,225	404,274
Gasoline	214,540	153,838	368,378	352,923
Coal, bituminous	184,244	40,693	224,937	282,673
Flour, wheat	40	168,301	168,341	115,702
Cement	128,569	18,140	146,709	118,470
Paper, newsprint	127,731	12,198	139,929	218,345
Wood-pulp	89,349	7,375	96,724	191,343
Kerosene	58,311	33,377	91,688	107,572
Sugar, raw	82,108		82,108	92,584
Hog Fuel		82,100	82,100	79,101
Motor Vehicles and Parts	72,442	9,643	82,085	44,630
Rock and Stone	4,671	72,611	77,282	11,779
Paper not otherwise specified	49,590	14,215	63,805	41,822
Fish (including Shell-fish), canned or preserved	21,142	29,053	50,195	61,652
Fertilizers and Fertilizer Materials	15,518	22,345	37,863	53,661
Ores and Concentrates not otherwise specified	31,197	809	32,006	22,372
Beverages, alcoholic	13,710	17,778	31,488	28,241
Lime	29,860	740	30,600	29,515
Fish (including Shell-fish), fresh or frozen	29,439	425	29,864	31,275
Copra	28,374		28,374	39,244
Petroleum Oil, refined, not otherwise specified	6,612	14,505	21,117	19,780
Machinery and Parts (except agricultural)	5,217	14,823	20,040	22,857
Grain Products (Mill Products except Wheat Flour)	56	15,428	15,484	9,981
Chemicals not otherwise specified	7,669	7,836	15,505	13,364
Coffee Beans and Coffee Preparations	14,862	207	15,069	17,108
Salt	7,779	4,988	12,767	13,842
Iron or Steel Tubes, Pipe and Fittings	11,279	1,266	12,545	19,367
Fish Oils	7,692	4,018	11,710	13,944
Iron or Steel Band, Bars not otherwise specified, Hoop, Plates, Rods, Sheets, Skelp, Strip and Tin Plate	11,033	542	11,575	7,081
Sulphur	5,631	5,808	11,439	13,979
Zinc Ore	10,407		10,407	17,896
All Goods not otherwise specified	381,900	583,958	965,858	1,149,473
Total	5,101,675	4,281,548	9,383,223	8,963,489

(Exclusive of ballast (non-revenue), bunkers, ships' stores, mail and passengers' baggage.)



A Shipment of Station Wagons Received Recently at Vancouver Harbour, in Outside Storage at Ballantyne Pier

lines, except through cars, totalled 19,453 last year, viz., 6,937 revenue and 12,516 non-revenue. In 1948 there were 7,651 revenue cars and 9,350 non-revenue cars delivered, a total of 17,001. The terminal railway handles many through cars from one connecting line to another, a total of 41,719 (20,926 revenue and 20,793 non-revenue) having been handled last year, compared with 39,544 (20,627 revenue and 18,917 non-revenue) in 1948. Also, there were 1,262 cars (1,143 revenue and 119 non-revenue) switched locally last year, compared with 1,293 (1,259 revenue and 34 non-revenue) in 1948. Thus, total cars handled last year were 81,981 (40,895 revenue and 41,086 non-revenue), compared with 75,281 in 1948 (39,098 revenue and 36,183 non-revenue).

Maintenance.—Last year, ordinary maintenance and repairs were carried out in Vancouver Harbour at a total cost of $207,727, excluding maintenance of the Second Narrows Bridge over Burrard Inlet, on which $23,435 was expended. The principal items of work in Vancouver Harbour were the relocation of the North Shore booming grounds, with complete renewal of piling; renewal of float and repairs to bridge, Granville Island; renewal of dolphins at No. 3 jetty replacement of waling timbers at Lapointe Pier; railway track renewals; overhaul of rolling stock; renewals and repairs to No. 1 and No. 2 grain elevators; renewals and repairs to cold storage plant and equipment, and general maintenance of harbour facilities and Second Narrows Bridge.

Capital Works.—Vancouver Harbour capital expenditure last year, part of which was provided from the replacement fund, totalled $16,389. The principal items were the construction of quarters for the North Shore section crew, replacement in concrete of a portion of the depressed track bulkhead at Lapointe pier, drainage and grading at the north end of Lapointe pier, completion of additional power cable installation to Fishermen's Wharf, paving an area at Ballantyne pier, construction of booths for salmon checkers at Ballantyne pier and the purchase of a mud pump, a floorstand grill, an impactor, radio telephone equipment for the work boat "Brockton 11" and purchase of a motor boat for use as a booming ground tender.



Aero Surveys, Ltd., photo

Air View of Vancouver Harbour

Revenues and Expenditures.—The Vancouver Harbour operating revenues (cents omitted) last year were $2,260,677, compared with $2,311,011 in 1948, a decrease of $50,334. Operating and maintenance expenses were $1,209,250, compared with $1,293,634 in 1948. After taking into account income debits and credits and making provision for replacements and interest due the Dominion Government, there was a net income surplus of $122,057 last year, compared with one of $81,127 in 1948.

Details of Revenue.—In the following are recorded the sources of Vancouver Harbour revenue last year, and the amount derived from each.

Harbour General		
Harbour Dues	$126,800.86	
Cargo Rates	712,674.32	
Miscellaneous	515,578.78	
		$1,355,053.96
Wharves and Piers		
Top Wharfage	183,729.41	
Dockage	25,895.00	
Miscellaneous	14,990.12	
		224,614.53
Permanent Sheds		
Shed Rentals	23,546.40	
Storage	77,087.47	
Miscellaneous	24,527.49	
		125,161.36
Railway System		268,372.75
Grain Elevator System		
Rentals		219,759.28
Cold Storage System		
Storage	2,262.00	
Miscellaneous	21,984.80	
		24,246.80
Miscellaneous—Outsiders		43,468.25
		$2,260,676.93

Details of Expenditures.—Of the total of $1,209,250.44 spent for administration, operation and maintenance last year, $176,812.01 was for administration, and the operation and maintenance expenditures were as follows:—

Harbour General	$ 355,299.68
Roads, Fences and Boundaries	2,002.67
Wharves and Piers	95,762.94
Permanent Sheds	129,431.95
Shed Hoists	1,421.04
Railway System	314,308.74
Grain Elevator System	67,172.35
Cold Storage System	28,771.99
Miscellaneous—Outsiders	38,267.07
	$1,032,438.43

Balance Sheet.—On the assets side of the Vancouver Harbour balance sheet as at December 31, 1949, the



A Shipment of Various Types of Small English Cars Received at Vancouver, in No. 1 Shed, Ballantyne Pier.

following items were listed:—Fixed assets, $25,092,161.71; current assets, $834,757.25; Second Narrows Bridge equity, $45,848.11; investments, $44,-759.36; security deposits, $14,231.85; replacement fund, $6,961,581.08; fire and general insurance funds, $106,-410.40; miscellaneous funds, $49,-485.57; prepaid charges, $2,331.40; deferred debits, $67,138.48.

The liabilities side showed the following items:— Dominion Government account, $24,740,936.08; accounts payable, construction, $1,174.15; current liabilities, $821,908.88; contractors' security deposits — contra, $14,-231.85; reserves, $7,084,142.42; deferred credits and suspense account, $126,429.10; surplus and deficit account, $429,882.73.

Details of Fixed Assets.—Following is a list of the Vancouver Harbour fixed assets as at the end of 1949:—

Harbour Dredging	$ 2,237.34
Real Estate	6,634,452.82
Vehicular Bridges	98,181.20
Roads, Fences and Boundaries	284,491.77
Miscellaneous Structures	18,644.82
Wharves and Piers	8,040,672.83
Permanent Sheds	1,478,020.16
Railway System	1,383,816.65
Grain Elevator System	6,583,158.62
Cold Storage System	95,279.68
Office Furniture and Appliances	36,289.53
Harbour Buildings	61,020.62
Water Supply System	4,123.06
Floating Equipment	27,692.44
Shore Equipment	287,940.01
Miscellaneous Small Plant	52,700.34
Engineering—General Surveys	3,084.59
Works under Construction	355.21
	$25,092,161.71

Second Narrows Bridge

The National Harbours Board report furnishes considerable information in regard to the operation of the Second Narrows Bridge over Burrard Inlet last year. Automobiles using the bridge last year totalled 1,047,783, compared with 979,047 in 1948, and buses and trucks using it totalled 398,484, compared with 376,-960. Passengers using the bridge (in vehicles and as pedestrians) totalled 4,392,784 last year, compared with 3,381,596 in 1948. Operating revenues increased by $13,916 last year, viz., from $255,096 in 1948 to $269,012. This increase in revenues was accompanied by a decrease in expenses for operation and maintenance, viz., from $95,-975 in 1948 to $89,081 last year. After charging interest on the debt to Vancouver Harbour, the bridge had a surplus of $174,017 last year, compared with one of $149,019 in 1948. The surplus to the extent of $169,163 was applied (in accordance with the amended agreement relating to the acquisition and operation of the bridge) against the expenditure incurred on bridge reconstruction. Repayments to the end of last year were $964,560, leaving a balance of $45,848.

Vancouver Harbour Management.— National Harbours Board operations at Vancouver are under the management of A. E. McMaster, O.B.E., Port Manager, who was appointed to the position early in 1948. Mr. McMaster was born in Perth, Ont., October 22, 1885, and started his career in May, 1903, in the service of the Canadian Pacific Ry. From 1908 to 1916 he was with the Canadian National Rys. in various positions from General Agent, Prince Rupert, B.C., to Division Freight Agent, Edmonton, Alta. Resigning then, he was with the Canadian Manufacturers' Association, Toronto, for three months, when he was appointed:— April, 1917, Secretary and Treasurer, Port Arthur Shipbuilding Co.; 1918, Secretary and Treasurer, Whalen Pulp and Paper Mills, Ltd., Vancouver; 1921, Resident Manager, Powell River, B.C., and 1926, Vice President and General Manager, Powell River Co., Ltd., Vancouver; 1936, President, Industrial Association of British Columbia, Vancouver; 1937, Managing Director, Nootka Wood Products, Ltd., Vancouver; 1939, on industrial and research promotion, Vancouver; 1942, Executive Assistant to Japanese Fishing Vessels Disposal Committee, Vancouver; February, 1943-May, 1943, Executive Assistant Advisory Committee on Japanese Properties in Greater Vancouver; May, 1943-September, 1945, with the Department of Munitions and Supply, Ottawa, as Special Assistant to the Financial Advisor; Associate Wood Fuel Controller; Associate Financial Advisor, and Assistant Co-ordinator of Controls and Liaison Officer with Department of Labour, successively; September, 1945-December, 1947, with War Assets Corporation, as Vice President in charge of Organization and Personnel, and Vice President and General Manager, Montreal.

P.W.D. Marine Contracts

The Dominion Department of Public Works awarded contracts of marine interest in July as follows:—

For dredging at Leger Brook, N.B., to Harold N. Price, Moncton, N.B., at approximately $13,205.

For dredging at White Head, N.B., to Diamond Construction Co., Ltd., Fredericton, N.B., at approximately $44,500.

For dredging at Midland, Ont., to McNamara Construction Co., Ltd., Toronto, at approximately $118,560.

For wharf extension at Carleton Village, N.S., to Mosher and Rawding, Liverpool, N.S., at approximately $14,830.

For dredging at Cape Bald, N.S., to D. LeBlanc, Buctouche, N.B., at approximately $12,580.

For dredging at La Have River and Mahone Bay, N.S., to the J. P. Porter Co., Ltd., Montreal, at approximately $40,622.50.

For dredging at Sault Ste. Marie, Ont., to A. B. McLean and Sons, Ltd., Sault Ste. Marie, at approximately $48,192.18.

For wharf extension and dredging at Barachois, N.B., to J. W. and J. Anderson, Ltd., Burnt Church, N.B., at approximately $79,227.50.

For dredging in the eastern channel, Toronto, to McNamara Construction Co., Ltd., at approximately $47,-778.75.

For dredging at Fort William, Ont., to Consolidated Dredging, Ltd., Toronto, at approximately $306,900.

For dredging at Little Harbour, N.S., to M. D. Rawding, Liverpool, N.S., at approximately $14,212.50.

For construction of a stores and carpenter shop at the Champlain Dry Dock, Lauzon, Que., to Frs. Jobin, Inc., at $73,582.

For pier repairs at Grande Anse, N.B., to A. Thimot and M. Comeau, Little Brook, N.S., at approximately $72,053.

For breakwater-wharf replacement at North Ingonish (McLeods), N.S., to B. A. Allaby and R. P. McLeod, Truro, N.S., at approximately $216,-445.

Water Levels, Great Lakes and St. Lawrence River

The Hydrographic and Map Service, Department of Mines and Technical Surveys, reports the following mean stages of the Great Lakes and St. Lawrence River for May, 1950, as computed by hourly readings from automatic gauge records. The reference for the Great Lakes is the U.S. Lake Survey Datum of 1903 adjustment, and for the Montreal Harbour, the Department of Public Works datum of 1915 adjustment:—

	Lake Superior at Port Arthur Ft.	Lake Huron at Goderich Ft.	Lake Erie at Port Colborne Ft.	Lake Ontario at Kingston Ft.	St. Lawrence River at Montreal Harbour Ft.	
Monthly mean above seal level	602.73	579.32	573.11	247.17	22.49	
Higher or lower (—) compared with:						
April, 1950	0.70	0.34	0.02	0.21	— 4.02	
May, 1949	0.68	—0.13	0.64	0.35	— 0.50	
Highest May since 1860	—0.32 (1861)	—4.23 (1886)	—1.59 (1862)	—1.66 (1870)	—10.38 (1876)	
Lowest May since 1860	2.61 (1926)	1.52 (1934)	2.92 (1934)	3.40 (1935)	1.57 (1935)	
June:—						
Monthly mean above sea level		603.33	579.58	573.05	247.15	21.38
Higher or lower (—) compared with:						
May, 1950		0.60	0.26	—0.06	—0.02	—1.11
June, 1949		1.03	0.04	0.58	0.58	0.56
Highest June since 1860		—0.17 (1916)	—4.06 (1886)	—1.63 (1860)	—1.56 (1947)	—8.43 (1876)
Lowest June since 1860		2.88 (1926)	1.69 (1934)	2.85 (1934)	3.13 (1935)	1.84 (1941)
July:—						
Monthly mean above sea level	603.59	579.87	572.77	246.96	20.88	
Higher or lower (—) compared with:						
June, 1950	0.26	0.29	—0.28	—0.19	—0.70	
July, 1949	0.88	0.19	0.45	0.79	0.17	
Highest July since 1860	—0.23 (1876)	—3.79 (1876)	—2.03 (1862)	—1.85 (1947)	—6.37 (1861)	
Lowest July since 1860	2.79 (1926)	1.89 (1934)	2.60 (1934)	3.11 (1934)	1.48 (1934)	

For construction of a wharf at Vermilion Bay, Ont., to Wm. Newman Co., Ltd., St. Boniface, Man., at approximately $18,908.

For breakwater repairs at Port Colborne, Ont., to McNamara Construction Co., Ltd., Toronto, at approximately $72,600.

For breakwater reconstruction at Yarmouth Bar, N.S., to the J. P. Porter Co., Ltd., Montreal, at approximately $369,290.

For construction of a wharf at Sundridge, Ont., to Fred Gauvreau, Parry Sound, Ont., at approximately $13,997.

For dredging at Burlington Channel, Ont., to Russell Construction Co., Ltd., Toronto, at approximately $76,-300.

For construction of a wharf at Katevale, Que., to H. Langlois, Magog, Que., at approximately $9,677.

McColl-Frontenac New Tanker Willowbranch

This fine new canal size ship, of all-welded construction, was built by Marine Industries, Ltd., in the record time of five months from laying of keel, and is described hereunder.

Accompanying illustrations show the new all-welded steel, single screw, Diesel-powered oil tanker built to the latest requirements of Lloyds and British Corporation Classification Society for service on the Great Lakes, River St. Lawrence and coasting, by Marine Industries, Ltd., Sorel, Que., to the order of McColl-Frontenac Oil Co., Ltd. The ship, designed by Alex C. Campbell, the company's consulting naval architect, fulfills the latest regulations for fire protection and life saving of the Canadian Board of Steamship Inspection. She was built in the record time of five months from laying of keel to completion, and embodies the most modern practice in shipbuilding. She is 259 ft. long over all, with length of 252 ft. between perpendiculars, moulded breadth of 43 ft. 6 in. and moulded depth of 20 ft. She is designed for draft of 14 ft. in canals and 16 ft. in open waters. Capacity at 14 ft. draft is 22,000 barrels of gasoline, with deadweight of 2,720 tons, and capacity at 16 ft. draft is 26,800 barrels of gasoline, with deadweight of 3,290 tons. She is powered by a Fairbanks-Morse 1,600 h.p., model 38D8-1/8, 10-cylinder, opposed piston type Diesel engine, with cylinders 8⅛ in. bore by 10 in. stroke, operating at 720 r.p.m. This direct reversible marine engine drives a 102 x 52 in. three-blade propeller through a hydraulic coupling and Farrel-Birmingham reduction gear, with ratio of approximately 2.5:1, the propeller turning over at approximately 288 r.p.m. The reduction gear has a built-in thrust bearing. Speed of the ship loaded is 10 knots.

All auxiliaries in the machinery space are electrically driven, with power supplied by four Diesel-engined generators of 60 kw. capacity each. Two of these generators are coupled to heavy duty cargo pumps able to handle 4,560 barrels of oil per hour. Two auxiliary lighting sets of 10 kw. capacity each are provided. The auxiliaries in the machinery space include general service pump, fire pump, two bilge pumps, sanitary pump, fresh water pump, ballast pump, fuel transfer pump, lubricating oil pumps, two air compressors and heating boiler.

The two main cargo pumps, the stand-by fresh water cooling pump for the main engine, the two ship service pumps and the lubricating oil transfer pump, together with the lubricating oil cooler and heat exchanger, were supplied by The Canadian Fairbanks-Morse Co., Ltd. The hydro-pneumatic tanks, pressure switches, piping packages and motor starters.

The lubricating oil transfer pump



The Diesel-powered Oil Tanker Willowbranch, Completed Recently for McColl-Frontenac Oil Co., Ltd., by Marine Industries, Ltd.

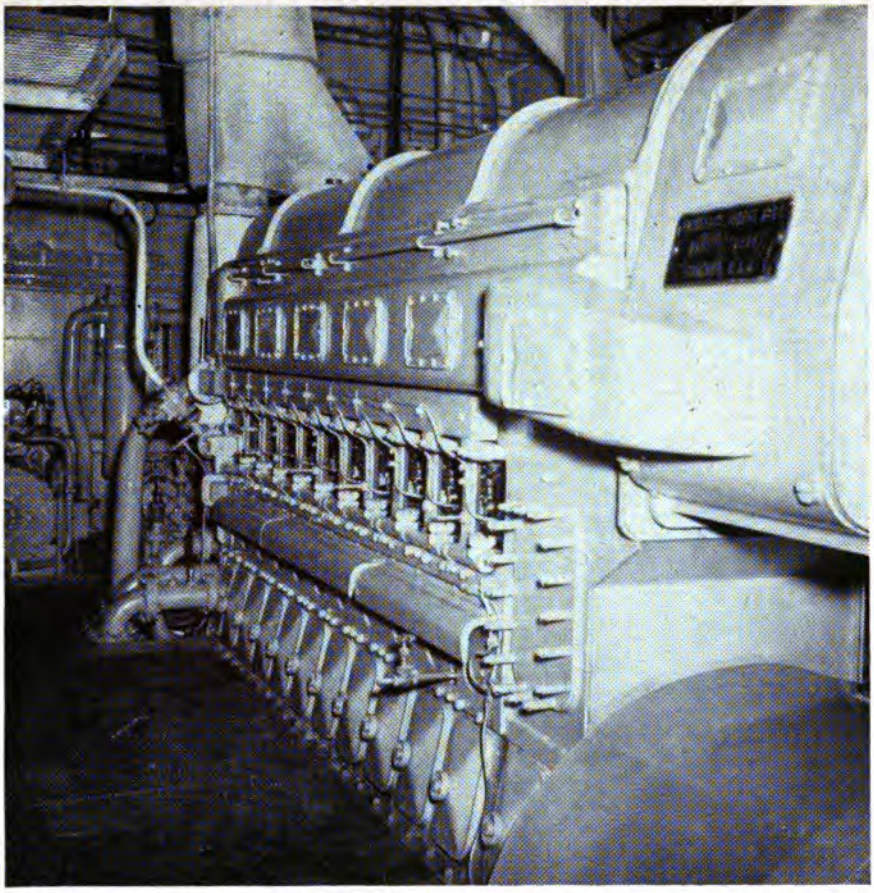
This ship, powered by a Fairbanks-Morse 1,600 h.p. opposed piston type Diesel engine, is of all-welded steel construction.

two cargo pumps are of the Waterous rotary heavy duty type, model R1881. These pumps operate at 230 r.p.m. and have a capacity of 1,600 U.S. gall. per minute when pumping light crude oil, against a discharge pressure of 100 lb. per sq. in. with a suction lift of 15 ft. The pumps were fitted with suitable reduction gear for direct connection to Diesel engines operating at 1,200 r.p.m. These pumps were supplied complete with bulkhead, stuffing boxes, flexible couplings and floating shafts.

The two ship service pumps are Fairbanks-Morse self-oiling typhoon type, of 1,500 gall. per hour capacity, complete with 1½ h.p. 220 volt, direct current starter. These pumps were supplied complete with 42-hour gall.

is a rotary gear unit, model F35, with capacity of 38 gall. per minute against a discharge pressure of 50 lb. per sq. in. The pump is mounted on a substantial, all-welded steel bedplate and direct connected to a five h.p. stabilized, shunt wound, marine type, 220 volt, direct current motor, operating at 1,140 r.p.m. The pump was supplied complete with direct current magnetic resistor type starter.

The fresh water cooling pump for the main egine is a Fairbanks-Morse four inch type 5521A, side suction, ball bearing, plain fitted centrifugal unit, with a capacity of 500 gall. per minute against a total dynamic head of 50 ft. This pump is mounted on a structural steel bedplate and direct connected through a flexible coupling



A View of the Engine Room of the Ms. Willowbranch

to a 10 h.p., 220 volt, stabilized shunt wound, direct current, marine type motor operating at 1,750 r.pm. This unit was supplied complete with direct current magnetic resistor type starter.

The hull is built on the transverse system of framing with soft-nosed stem and cruiser stern, single deck type with raised trunk in way of oil cargo tanks, raised forecastle and raised poop. Officers' deckhouses and navigation bridge are forward of midships. Machinery is located aft. Oil cargo is carried in five main tanks divided on centreline, with the pump room between machinery space and oil cargo tanks. Accommodation is provided for a total crew of 30 men, the deck crew in forecastle forward; captain and deck officers in houses forward of midships; engineers, cooks and steward, galley, dining saloon and mess rooms in poop aft. All quarters are tastefully furnished and of most modern standard.

Fresh water and sanitary service is provided throughout, with heating system and ventilation to all accommodation and complete electric lighting system installed. All auxiliary machinery is electrically driven, the deck machinery consisting of windlass, 3 mooring winches and snubbing winch. Steering gear is electro-hydraulic type with telemotor control from the wheelhouse. The lifeboats are placed on the boat deck aft and are of aluminum construction, and are handled by pilot type patent davits.

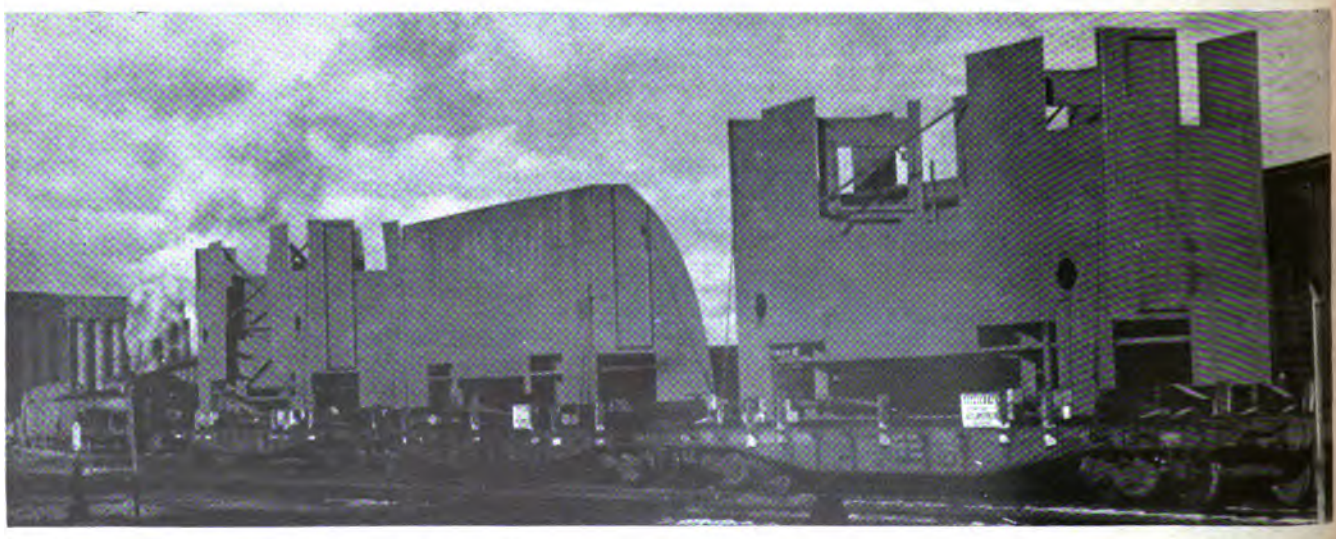
Galley appointments include oil fired range, electric refrigeration, etc. A complete system of C.O.2 fire extinguishing is provided for protection of oil cargo tanks, pump room, machinery space, etc. The wheelhouse allows for a clear view both forward and aft for navigation in canals and on the St. Lawrence, and is furnished with the latest navigational aids, consisting of Gyro-compass, radar and ship-to-shore telephone system, in addition to the usual compasses, engine room telegraphs, etc.

All-Welded Steel Dipper Dredge Hull

Another unique job of shipping marine equipment in sections was undertaken in the late fall of 1949 by the Steelcraft Division of Russel-Hipwell Engines, Ltd., Owen Sound, Ont. This time it involved an all-welded steel dipper dredge hull, to replace the wooden hull of Dredge No. 205, being operated out of Selkirk, Man., by the Department of Public Works.

The now-assembled hull is 85 ft. in length, with 34 ft. beam and maximum depth of 8 ft. 2 in. For shipment, the hull was pre-fabricated in seven sections, each engineered to maximum railway clearance and to eventually reassemble in a manner to provide a hull structurally as strong as if normally constructed. Eight flatcars made the total load of 145 short tons, the eighth being the assembly equipment.

Welding up the prefabricated sections took a crew of nine men about 40 days, and most of the time the



The 145-ton All-Welded Steel Dipper Dredge Hull, Loaded on Eight Flat Cars for Rail Movement from the Russel-Hipwell Plant at Owen Sound, Ont., to Selkirk, Man.

weather was sub-zero; a temporary shelter was erected over the building ways and heated inside to a suitable temperature for welding.

This is among the first all-welded dredge hulls in use with the Department. Original specifications for the dredge hull called for riveted construction. However, in view of the builder's experience gained during the past 25 years in constructing welded Steelcraft of all types, and reports of successful operation of similar type welded hulls, there is every reason to believe this hull will give equal or better service than one of riveted construction, and at less cost to the taxpayer.

Record Canal Traffic in June

A new high record in freight tonnage transported through the Canadian canals was established in June this year, at 3,760,666 tons, representing an increase of 473,057 tons, or 14.4%, over the June, 1949, tonnage, and also a substantial increase over the previous high record of 3,312,520 tons established in June, 1943.

Notwithstanding a decrease in freight traffic through the Canadian lock at Sault Ste. Marie in June this year, compared with that of June, 1949, and because of traffic increases on the Welland Ship Canal and the St. Lawrence and Richelieu canals, a new high record in freight traffic through the Canadian canals system was established in June this year, with substantial increases over the traffic of June last year and over the previous high record for June, established in 1943. Corn, wheat, petroleum, pulpwood and miscellaneous freight were moved in considerably heavier volume during June this year than in the month in preceding years. Increased traffic on the canals corresponds with advances in the tonnage of railway freight carried over that in June last year, as well as with the widespread higher level of industrial activity in Canada.

Sault Ste. Marie Canals—Canadian and United States Locks.— The tonnage of freight locked through both systems during June amounted to 15,594,946, compared with 15,798,065 tons in the same month last year, off 1.3%. The wheat movement more than doubled, rising from 455,067 to 958,190 tons. Eastbound volume eased 249,219 tons to 13,445,645 tons, due mainly to a drop of some 682,700 tons in iron ore shipments, at 12,060,291 tons for the current June. Steel, stone, and other freight advanced. Westbound freight was 46,100 heavier at 2,149,301 tons, as soft coal, steel, salt and stone gained over June, 1949, but oil and gasoline, hard coal, and other freight declined. Total passenger traffic was down sharply from 10,843 to 5,954. Ship passages numbered 3,013 against 3,214 one year earlier, with most of the drop on the Canadian side.

Welland Ship Canal.—Freight traffic for the month totalled 2,014,313 tons, a gain of 120,893 tons or 6.4% over the preceding June, with 998 ships passing, against 972 one year earlier. Passengers rose from 1,934 to 3,218. Commodities moving in greater volume included corn, up from 8,816 to 79,310 tons; oats; wheat, up from 264,606 to 470,892 tons; flour; gasoline; sugar; pulpwood, recovering from 78,666 to 89,891 tons; paper, and woodpulp at 7,800 tons against only 594 tons. Reduced shipments were shown for barley, rye, oil, soft coal, coke, iron ore and miscellaneous freight. Following is the record of freight through the Welland Ship Canal, in tons, in June, this year and last:—

	Month of June, 1950	1949
Barley	23,675	34,130
Corn	79,310	8,816
Oats	7,846	6,289
Rye		20,485
Wheat	470,892	264,606
Flour	1,763	620
Gasoline	88,729	85,708
Petroleum and other oils	143,152	187,882
Sugar	15,165	11,811
Pulpwood	89,891	78,666
Autos and parts	573	641
Paper	37,113	29,152
Wood pulp	7,800	594
Soft coal	637,304	683,560
Coke	3,948	8,079
Iron ore	189,998	242,381
Sand	28,848	28,600
All other freight	188,306	201,400
Total freight	2,014,313	1,893,420

St. Lawrence Canals.— Freight moving through the St. Lawrence system during June, at 1,438,422 tons, was up sharply over the volume passing in the same period last year, the increase being 426,234 tons, or 42%. Ship passages rose from 1,185 to 1,456 but no passenger traffic was shown due to the cessation of Canada Steamship's Rapids service. Corn, oats, wheat, flour, gasoline, petroleum, sugar, pulpwood, autos, woodpulp, hard and soft coal, sand and other freight recorded good increases over June, 1949. Wheat rose from 187,223 to 342,062 tons and oils from 81,169 to 155,650 tons, while pulpwood nearly doubled at 109,166 tons. Ore shipments were appreciably heavier this June. Following is the record of the freight traffic, in tons, through the St. Lawrence canals, in June, this year and last:—

	Month of June, 1950	1949
Barley	10,952	22,783
Corn	40,200	8,463
Oats	5,397	1,275
Rye		15,209
Wheat	342,062	187,223
Flour	1,703	620
Gasoline	140,573	130,076
Petroleum and other oils	155,650	81,169
Sugar	19,282	9,919
Pulpwood	109,166	59,372
Autos and parts	1,315	577
Paper	16,931	17,518
Wood pulp	9,120	944
Hard Coal	6,855	4,645
Soft coal	299,797	270,434
Sand	49,870	48,620
All other freight	229,549	153,341
Total freight	1,438,422	1,012,188

Other Canals and Total.—Figures recording the traffic through other canals in the Canadian system, and through Canadian canals as a whole, in June this year and last, appear in the accompanying two-column table.

The figures in this review were furnished by the Dominion Bureau of Statistics, Transportation Division.

Traffic through Canals other than Sault, Welland Ship and St. Lawrence, and through ALL Canadian Canals Combined, June, 1950 and 1949

	Ottawa River Canal		Rideau Canal		Richelieu River Canal	
	1950	1949	1950	1949	1950	1949
Ship passages No.	163	190	9	39	108	65
Registered Tonnage Tons	48,322	52,707	489	1,876	17,415	11,170
Passengers No.		8	1/8/24	42		
Total Freight Tons	41,511	45,272	178	202	19,411	10,804
Pleasure Craft	300	682	1,744	2,234		

	Trent Canal		Murray Canal		St. Peter's Canal	
Ship passages No.	6	98	5	11	82	85
Registered Tonnage Tons	152		2,855	6,281	3,981	4,202
Passengers No.					2	42
Total Freight Tons	31	50			844	1,026
Pleasure Craft	2	1,258	70	123	4	7

	St. Andrew's Canal		All Canadian Canals	
	1950	1949	1950	1949
Ship passages No.		113	3,210	3,179
Registered Tonnage Tons		16,245	3,485,254	3,368,136
Passengers No.		327	6,362	8,486
Total Freight Tons		3,724	3,760,666	3,287,609
Pleasure Craft		47	2,120	4,351

1/ Exclusive of 2,281 passengers on sight-seeing pleasure cruise boats.
2/ Exclusive of 5,750 passengers on pleasure craft.

Canadian Vickers, Ltd.

In the period June 18-August 17, Canadian Vickers, Ltd., Montreal, drydocked eight ships for repairs and carried out repair work on 42 ships afloat. The repair work handled included repairing of extensive bottom damage on the ss. Chiswick, and a complete overhaul of the Canadian National Rys. car ferry Abegweit. Also carried out were extensive conversion work and alterations on the ms. Norfolk, now in service on the Great Lakes and Gulf of St. Lawrence.

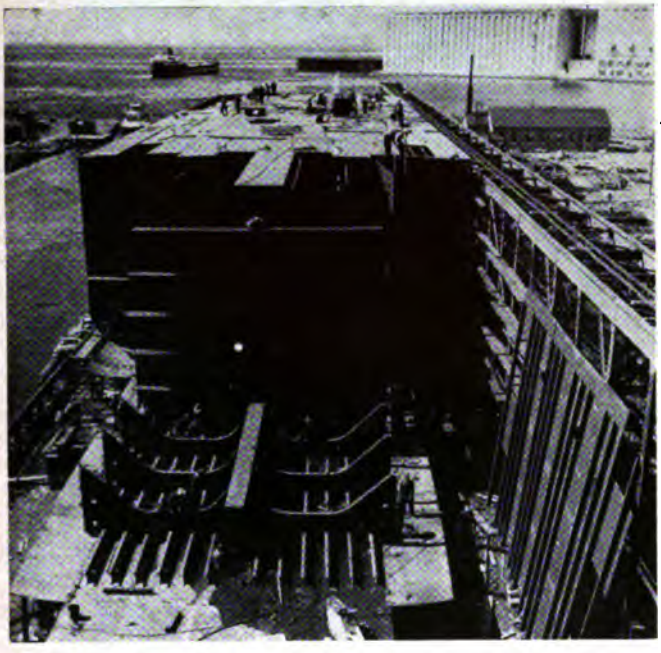
Steel Derrick Scow For Toronto

Mayor McCallum of Toronto, in his capacity of Chairman of the City Board of Control, has requested tenders to September 19 for the construction of a steel derrick scow.

Work Proceeding on Big Tankers

The awarding of contracts by Pipe Line Tankers, Ltd., for the building of two oil tankers which will be larger than any built in Canada heretofore, and the largest on the Great Lakes, was recorded in our January issue, pg. 46, where an elevation drawing of one of the proposed new ships appeared, and where it was noted that the two tankers are to be operated under charter by Imperial Oil Limited, in the carriage of oil from the pipeline terminal at Superior, Wis., to Sarnia and other oil refining points on the Great Lakes. One of the ships is being built by the Collingwood Shipyards, Ltd., Collingwood, Ont., and the other by Port Arthur Shipbuilding Co., Ltd., Port Arthur. The ship being built at Collingwood is being named the Imperial Leduc, and the one being built at Port Arthur, the Imperial Redwater. Both are expected to be launched in October. They will be fitted out during the winter, to be ready for service upon the opening of navigation in 1951, as the world's largest fresh water tankers.

Launching Problem Looms Up.—The launching of the Imperial Redwater at Port Arthur will be a ticklish job. The new tanker will be 620 ft. long and 68 ft. wide, and will have to be launched sideways into a water area 713 ft. long and only 98 ft. wide. It is thus seen that there is a leeway of only 30 ft. in which to stop the 5,000 tons of steel which will slide down the launching ways in October. Heavy chains will be attached to the hull to stop it from hitting the structure on the other side of the slip. The waves thrown up by the ship in launching could cause considerable destruction if special precautions were not taken. Buildings within range of the water will be barricaded, and everything which could be moved by the effect of the sudden displacement of water will be taken out of the way.



Tanker Imperial Redwater under Construction



Robert F. C. Baldrey,
Chief Engineer, Canadian National Steamships (Pacific Coast) ss. Prince Rupert

Mainly About Marine People

Robert F. C. Baldrey, previously Second Engineer on the Canadian National Steamships (Pacific Coast) ss. Prince George, has been appointed Chief Engineer of the company's ss. Prince Rupert. Mr. Baldrey was born December 15, 1903, in Potacahund, India, and joined Canadian National Steamships in 1927 as Junior Engineer on the ss. Prince Rupert, serving later on other company ships. When the ss. Prince Charles and ss. Prince John were sold to Union Steamships, Ltd., he joined that company in 1940, and served it as Second Engineer and Chief Engineer until he rejoined Canadian National Steamships, Ltd., in 1948, as Inspecting Engineer on the ss. Prince George during construction of that ship. He became Second Engineer of the ship when it entered service in June, 1948, and has since relieved from time to time as Chief Engineer of the ss. Prince Rupert and ss. Prince George.



J. V. Clyne,
who has resigned from the position of Chairman of the Maritime Commission, to accept an appointment to the Supreme Court of British Columbia.

John V. Clyne.—The resignation of Mr. Clyne from the chairmanship of the Canadian Maritime Commission was recorded in our August issue, pg. 468, where it was noted that he had been appointed a member of the Supreme Court of British Columbia, filling a vacancy created recently by the establishment of an additional judgeship in that province. Particulars were given of Mr. Clyne's long association with maritime affairs. A portrait of him appears herewith.

Naval Shipbuilding and the Railway Strike

It was reported from Ottawa on August 24 that the railway strike had begun to interfere with the naval shipbuilding programme, having halted the construction of four minesweepers, of which one each is being built at Saint John, Lauzon, Port Arthur and Victoria. It was said that construction had been stopped due to non-arrival of shipments of aluminum which were in transit when the strike began. The building of three anti-submarine escort ships, one each at Halifax, Montreal and North Vancouver, scheduled to begin at mid-September, would be delayed in the event of the steel mills being forced to close. Other craft under construction for the navy are an icebreaker and a gate vessel, but it is reported that most of the materials for these were on hand.

Manufacturers and Suppliers

Associated Equipment Co., Ltd.

Attention was called in our August issue, pg. 469, to the marine Diesel engines exhibited by Associated Equipment Co., Ltd., Southall, Middlesex, England, at this year's International Trade Fair in Toronto. A pair of the company's six-cylinder marine Diesel engines, complete with reverse and reduction gears, appears in an accompanying illustration.



D. W. Cameron,
Manager of Operations, Montreal Locomotive Works, Ltd.

General Motors of Canada, Ltd.

W. A. Wecker, President, General Motors of Canada, Ltd., announced, August 3, the awarding of a contract to Piggott Construction Co., Ltd., for construction of a central parts distribution warehouse in Oshawa, at cost of about $3 million. The contract for grading of the site has been awarded Curran and Briggs Construction Co., while that for the structural steel was awarded Dominion Structural Steel Co., Ltd., Montreal.

Montreal Locomotive Works, Ltd.

Appointment of D. W. Cameron, who since February, 1947, has been General Superintendent of the American Locomotive Co. Schenectady, N.Y., plant, as Manager of Operations, Montreal Locomotive Works, Ltd., was announced at mid-August by Sir Frederick Carson, Executive Vice President.

A native of New Glasgow, N.S., Mr. Cameron started his career in the locomotive industry with M.L.W. in 1917 as an apprentice machinist. After two years' service in the Canadian air force, he returned to complete his apprenticeship and was assigned to the piece work department in 1923.

A year later he was transferred to the Richmond, Va., plant of American Locomotive Co., and in 1925 proceeded to Schenectady, where he was appointed Assistant Supervisor in the piece work department. He became Assistant Superintendent in charge of the Diesel-electric locomotive shop in 1940. In 1944 he was appointed Superintendent Co-ordinator of the plant in charge of the planning and wage rate, material stores and yard and production departments. During the war he was active in organizing the company's labor-management committee on war production.

National Pneumatic Co.

Harold Kern, who entered the service of National Pneumatic Co. five years ago as Assistant Comptroller, and who subsequently became Comptroller, has been appointed Treasurer of the company. He is a graduate of New York University, with the master's degree in business administration, and now lectures at Northeastern University. He is a director of the New York Chapter, National Association of Cost Accountants, and is a member of the Controllers' Institute of America. His headquarters are at the company's plant in Boston.



Philip D. Blanchard,
Manager of Service, The Superheater Co. Division of Combustion Engineering—Superheater, Inc., with headquarters at East Chicago, Ind.



Paul H. Maurer,
Vice President and Director of Engineering, National Pneumatic Co., Inc.

Paul H. Maurer has been appointed Vice President and Director of Engineering, National Pneumatic Co., Inc., according to a recent announcement by Frank C. Campbell, Chairman of the Board. Mr. Maurer was Chief Engineer of the company from 1945 to 1948, when he left to become Vice President in charge of Engineering for the Redmond Co., Inc., of Owosso, Mich., fractional h.p. electric motor manufacturer.

Mr. Maurer's engineering background qualifies him exceptionally well for his new position. Prior to his previous connection with the National Pneumatic Co., he was associated with the Bendix Aviation Corporation as development engineer for aircraft electrical equipment. He was also electrical engineer for the Hudson Mo-



The Pair of Six-cylinder Marine Diesel Engines, Complete with Reverse and Reduction Gears, Exhibited by Associated Equipment Co. at the International Trade Fair, Toronto. Each engine, fresh water cooled, develops 100 b.h.p. at 1,500 r.p.m., continuously rated.



Samuel L. Brownlee,
Manager of Sales, Western District, The Superheater Co. Division of Combustion Engineering—Superheater, Inc., with headquarters in Bankers Bldg., Chicago 3.

tor Car Co., in which position he participated largely in the design of the present Hudson automatic electric transmission.

A member of the Society of Automotive Engineers, the American Institute of Electrical Engineers, the Engineering Society of Detroit, and the New York Railroad Club, Mr. Maurer is well known in the engineering profession. His offices are at the National Pneumatic Company in Boston.

Add Mainly About Marine People

Railway and Power Engineering Corp., Ltd.

A catalogue entitled "Transit Products", which contains descriptions and details of a great variety of materials, equipment and supplies for the transit industry, has been issued by Railway and Power Engineering Corp., Ltd. The publication is profusely illustrated by photographic reproductions and drawings. In introductory paragraphs it is pointed out that the great growth in Canada's population has imposed a tremendous demand upon all types of public transportation facilities, and has brought about the development of a specialization in products for the transit industry, within the Railway and Power Engineering Corp., Ltd., sales organization. The result is that from all of the Corporation's branch warehouses throughout Canada, it is possible to offer purchasers a most comprehensive sales and engineering service, calculated to satisfy every maintenance and manufacturing requirement.

The Superheater Co. Division, Combustion Engineering—Superheater, Inc.

Roy J. Van Meter, Vice President in charge of Western Sales and Service for the Superheater Co. Division of Combustion Engineering-Superheater, Inc., in the United States, retired August 1. He had been associated with the Chicago office of the company for more than thirty-two years.



H. Gene Harrison,
Assistant Manager of Service, The Superheater Co. Division of Combustion Engineering—Superheater, Inc., with headquarters at East Chicago, Ind.

The Superheater Co. Division of Combustion Engineering-Superheater Inc. (U.S.A.), announced the following appointments, effective August 1:-

Philip D. Blanchard, Manager of Service, with headquarters at East Chicago, Ind.; H. Gene Harrison, Assistant Manager of Service, with headquarters at East Chicago; Samuel L. Brownlee, Manager of Sales, Western District, with headquarters in Bankers Building, Chicago 3.

Effective August 1, Bard Browne, Vice President, directs the activities of the Western District Sales Department and the consolidated Eastern and Western Service departments, in addition to his other duties.

Motorships for Venezuela

Mention was made in our May issue, pg. 284, of the launching of the third, fourth, fifth and sixth of the six motorships ordered from Canadian Vickers, Ltd., by Compania Anonima Venezolana de Navegacion. The third ship, the ms. Lara, and the fourth, the ms. Bolivar, were launched April 5, the ms. Lara having been christened by Senora Mercedes de Mazzei, wife of the Minister of Communications for Venezuela, and the Bolivar by Senora Lilian de Ojeda Delgedo, wife of the Venezuelan consul in Montreal. The fifth and sixth ships, the ms. Miranda and the ms. Trujillo, were launched April 19, the ms. Miranda having been christened by Senora Candida Santander de Chafardet, and the ms. Trujillo by Senora Graciela de Rios Reyna. The first two ships of the series were completed last fall and reached the Atlantic before freeze-up.

The Lara made her trial trip April 25; the Bolivar, May 4; the Miranda, May 9, and the Trujillo, May 15. All four have been delivered; the Lara on April 27, the Bolivar on May 5, the Miranda on May 11, and the Trujillo on May 22. These ships, for the Venezuelan coastal trade, are each 170 ft. long over all and powered by 900 b.h.p. Nordberg Diesel engine.



The Ms. Lara, One of Six Motorships for Argentina Built by Canadian Vickers, Ltd., following her Launching

International Salvage Union Conference

The ninth meeting of the members of the International Salvage Union took place in Paris, France, June 22 and 23.

Delegates from most of the European seafaring nations were present, and also from Canada.

The conference was presided over by Murk Lels of Rotterdam, who mentioned in his opening address the revision of Lloyd's Form of Salvage Agreement, which showed an improvement on the previous form, although the alterations were not of a

well as to the fact that the average age of ships afloat is lower than in prewar time. Statistics of total losses show a marked decrease compared with before the war.

It was felt that it would be increasingly difficult to maintain salvage vessels and rescue tugs on station on a remunerative basis, as running costs of salvage vessels compared with prewar show a very substantial increase, whereas salvage awards have not shown a corresponding upward movement.

Shipowners and underwriters realize that it is of vital importance to the safety of shipping in general that salvage vessels and rescue tugs should be maintained on station at strategic points, and the conference agreed that a solution should be found to overcome this difficulty.

It had been suggested by United States underwriters that an international fund should be established to give a measure of support to salvage companies, but it is understood that for various reasons such a plan was not acceptable to British underwriters.

It was the unanimous opinion of the Conference that the difficulties of the salvage community can best be overcome by granting of increased awards, and a resolution was passed suggesting that this matter be brought to the attention of the interested parties.

A further point of discussion was the tendency on the part of shipowners and underwriters in various countries to demand the services of rescue tugs on a daily hire basis, where assistance is required by ships in difficulties at sea. It was felt that salvage companies could not be expected to maintain stations at high costs, to render assistance which is strictly salvage service, on such a basis.

Mr. Lels was re-elected President. The members of the executive committee, Capt. Hector Kiaer of Copenhagen and Commodore T. McKenzie, C.B., C.B.E., R.N. (R.) of Faslane, Scotland, were reappointed.

The next conference will be held at Copenhagen in 1952.

ASSOCIATIONS, CLUBS, MEETINGS

The names of the persons mentioned are those of the secretaries, unless otherwise stated

Air Industries and Transport Association of Canada—R. N. Redmayne, 610 Blackburn Bldg., Ottawa. Annual meeting, October, 1950.

Air Transport Association of America—M. F. Redfern, 1107 Sixteenth St., N.W., Washington.

American Association of Baggage Traffic Managers—E. P. Soebbing, 1450 Railway Exchange Bldg., St. Louis, Mo.

American Association of Passenger Traffic Officers—B. D. Branch, Secretary-Treasurer, 143 Liberty St., New York 6. Annual meeting, Havana, Cuba, October 24-27, 1950.

American Association of Port Authorities—Paul A. Amundsen, 815 Washington Bldg., Washington 5, D.C. Annual meeting, Fairmont Hotel, San Francisco, Calif., October 3-7, 1950.

American Association of Railroad Superintendents—Miss Elise LaChance, 431 S. Dearborn St., Chicago, 5.

American Railway Bridge and Building Association—Miss Elise LaChance, 431 S. Dearborn St., Chicago, 5. Annual meeting, September 18-20, 1950, Stevens Hotel, Chicago, Ill.

American Railway Development Association — E. L. Beardsley, Secretary-Treasurer, The D & RGW RR. Company, P.O. 2040, Denver 1, Colo.

American Railway Engineering Association—N. D. Howard, 59 E. Van Buren St., Chicago, 5. Annual meeting, March 13-15, 1951.

American Society for Testing Materials—C. L. Warwick, 1916 Race St., Philadelphia 3, Pa. Annual meeting, June 18-22, 1951, Atlantic City, N.J.

American Society of Mechanical Engineers—Railroad Division Chairman, K. A. Browne, Chesapeake and Ohio Ry. Co., 3305 Terminal Tower, Cleveland 1, O. Secretary, E. L. Woodward, Western Mechanical Editor, Railway Age, 79 Monroe St., Chicago 3. Annual meeting, November 28-29, 1950, Hotel Statler, New York, N.Y.

American Society of Tool Engineers—J. M. Cannon, Director of Public Relations, 523 Penobscot Bldg., Detroit, 26, Mich.

American Transit Association—A. W. Baker, 292 Madison Ave., New York 17, N.Y. Annual convention, September 25-27, 1950, Biltmore Hotel, Los Angeles, Cal.

American Wood-Preservers Association—H. L. Dawson, 839 17th St. N.W., Washington 6. Annual meeting, April 25-26, 1951, Chicago, Ill.

Association of American Railroad Dining Car Officers—W. F. Ziervogel, 605 S. Rankin Ave., St. Louis 3, Mo. Next meeting, Sept. 19-20-21, 1950, New York.

Association of American Railroads—Headquarters, Washington, 6, D.C.—Officers: W. T. Faricy, President; J. Carter Fort, Vice President and General Counsel; G. M. Campbell, Secretary-Treasurer, and Operation and Maintenance Dept.—J. H. Aydelott, Vice President, Washington, 6. Operating—Transportation Division, L. R. Knott, Executive Vice Chairman, 59 East Van Buren St., Chicago 5.
- Operating Section, J. C. Caviston, 59 East Van Buren St., Chicago 5, Ill.
- Transportation Section, H. A. Eaton, 59 E. Van Buren St., Chicago.
- Communications Section, A. H. Grothmann, 59 East Van Buren St., Chicago 5, Ill.
- Fire Protection and Insurance Section, W. E. Todd, 59 E. Van Buren St., Chicago.
- Freight Station Section, W. E. Todd, 59 E. Van Buren St., Chicago.
- Medical and Surgical Section, J. C. Caviston, 59 East Van Buren St., Chicago 5, Ill.
- Protective Section, J. C. Caviston.
- Safety Section, J. C. Caviston.
- Freight Loading and Container Section, G. H. Ruhle, 59 E. Van Buren St., Chicago.
- Engineering Division, Neal Howard, 59 E. Van Buren St., Chicago.
- Construction and Maintenance Section, Neal Howard.
- Electrical Section, Neal Howard.
- Signal Section, R. H. C. Balliet, 59 East Van Buren St., Chicago 5, Ill. Next meeting, September 18-20, 1950, Hotel Statler, N.Y.
- Mechanical Division, Fred Peronto, 59 E. Van Buren St., Chicago.
- Electrical Section, Fred Peronto.
- Freight Claim Division, Lewis Pilcher, Executive Vice Chairman, 59 E. Van Buren St., Chicago.
- Motor Transport Division, G. M. Campbell, Washington.
- Car Service Division, A. F. Swinburne, Executive Assistant, Washington.
- Bureau of Explosives—D. M. Grant, Inspector, lines east of Port Arthur, 342 Union Station, Toronto 1.
- Finance Accounting, Taxation and Valuation Dept., E. H. Bunnell, Vice President, Washington.
- Accounting Division, E. R. Ford, Washington.
- Purchases and Stores Division, W. J. Farrell, Executive Vice Chairman, Washington, 6.
- Treasury Division, E. R. Ford.
- Traffic Dept., W. J. Kelly, Vice President, Washington.
- Bureau of Railway Economics—J. H. Parmelee, Vice President and Director, Washington.
- Public Relations Department—R. S. Henry, Vice President, Washington.

Association of Railway Claim Agents—F. L. Johnson, Gulf, Mobile and Ohio Rd. Co., 104 St. Francis St., Mobile, 13, Ala. Annual meeting, May 2-4, 1951, Biloxi, Miss.

Canadian Automotive Electric Association—J. A. Bennet, Executive Secretary, 159 Bay Street, Toronto, and R. C. Sullivan, Secretary-Treasurer, 7 Dover St., Chatham.

Canadian Automotive Transportation Association—John Magee, Executive Secretary and Director of Public Relations, 146 Wellington St. West, Toronto.

Alberta Motor Transport Association — J. Taylor, 1411 2nd St. East, Calgary.

Automotive Transport Association of British Columbia—G. L. Buckman, 810 Dominion Bank Bldg., Vancouver.

Manitoba Automotive Transportation Association—M. M. Wocks, 118 McDonald Ave., Winnipeg.

Automotive Transport Association of Ontario, Inc., J. O. Goodman, 146 Wellington St. W., Toronto. Annual meeting, October 25-26, 1950, Royal York Hotel, Toronto.

Automotive Transport Association of Quebec—Camille Archambault, 1670 Parthenais St,. Montreal.

Saskatchewan Motor Transport Association—Angus A. Mitchell, 6 Victoria Park Bldg., Regina.

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Canadian Car Demurrage Bureau—Eastern Lines: C. H. Thurber, Manager, 885 Lagauchetiere St. West, Montreal.—Western Lines: J. T. Corrie, Manager, Winnipeg.

Canadian Freight Association—
Eastern Lines: G. F. Smith, Chairman, Room 108, 276 St. James St. West, Montreal.
Western Lines: J. F. Flynn, Chairman, Room 44, C.P.R. Office Bldg., Winnipeg.

Canadian Industrial Traffic League—H. A. Mann, 13 Adelaide St. E., Toronto, General Secretary. Divisional Secretaries:—British Columbia, T. H. Whitson, Pacific Mills, Ltd., Vancouver; Ontario, S. V. Musselwhite, Victory Mills, Ltd., Toronto; Prairie, J. Scarfe, Security Storage Ltd., Winnipeg, Man.; Quebec, A. J. Binnie, Dominion Tar and Chemical Co., Montreal. District Secretaries:—Essex-Kent, R. Scott, Canadian Industries, Ltd., Windsor, Ont.; Niagara Peninsula, W. J. Farr, McKinnon Industries, Ltd., St. Catharines. Annual meeting, Royal York Hotel, Toronto, February 12-13, 1951.

Canadian Passenger Association — Eastern Lines: C. J. Campbell, Vice Chairman, 437 St. James St., Montreal. Western Lines: Roy H. Powers, Vice Chairman, 320 Union Station, Winnipeg.

Canadian Passenger and Ticket Agents Association—R. L. Armstrong, C.P.R., Royal York Hotel, Toronto. 1950 Convention, September 13-14-15, Niagara Falls, Ont.

Canadian Railway Club—P.O. Box 162, Montreal 3, meetings at Mount Royal Hotel, Montreal, second Monday each month, except June, July and August, at 8 p.m.

Canadian Transit Association—J. F. Neild, 35 Yonge St., Toronto.

Dominion Motor Coach Association—R. J. Musgrove, 35 Yonge St., Toronto.

Engineering Institute of Canada—L. Austin Wright, 2050 Mansfield St., Montreal. Annual meeting, May 9-11, 1951, Montreal.

Express Traffic Association of Canada—G. H. Griffin, Manager, 885 Lagauchetiere St. West, Montreal.

L'Association des Proprietaires d'Autobus de Quebec—Wilbrod Bherer, 229 St. Joseph St., Quebec, Que.

Lake Carriers' Association—O. T. Burnham, 905 Rockfeller Bldg., Cleveland, 13, Ohio.

Lake Freight Association—J. Dow, 759 Victoria Square, Montreal.

Marine Club, Toronto—H. L. Rowntree, Secretary-Treasurer, Suite 209, 9 Richmond St. East, Toronto.

Motor Truck Club of Toronto—G. Elliot, Canada Cartage Co. Ltd., 14 Cross St., Toronto.

National Association of Motor Bus Operators —A. W. Koehler, 839 17th St. N.W., Washington, 6, D.C. Annual meeting, September 13-15, 1950, Drake Hotel, Chicago, Ill.

National Fire Protection Association, including Fire Marshals, Volunteer Fire Company and Railroad Sections—M. R. Freeman, Public Relations Manager, 60 Batterymarch St., Boston, 10, Mass.

Ontario Association of Motor Coach Operators—R. J. Musgrove, 35 Yonge St., Toronto.

Railway Association of Canada—J. A. Brass, General Secretary, 437 St. James St., Montreal. Western Lines: Roy H. Powers, Secretary, 320 Union Station, Winnipeg.

Railway Fuel and Travelling Engineers' Association—L. H. Peters, Secy-Treas. Rm. 1213—139 W. Van Buren St., Chicago, 4, Ill. Annual meeting, September 18-20, 1950, Hotel Sherman, Chicago, Ill.

Railway Mission of North America—Wm. A. Fuller, 106 Evelyn Crescent, Toronto.

Railway Supply Manufacturers' Association —A. W. Brown, 60 East 42nd St., New York, 17, N.Y.

Shipping Federation of British Columbia—G. E. McKee, General Manager, 45 Dunlevy Ave., Vancouver.

Shipping Federation of Canada — C. T. Mearns, 300 St. Sacrament St., Montreal. Annual meeting, third Wednesday in March.

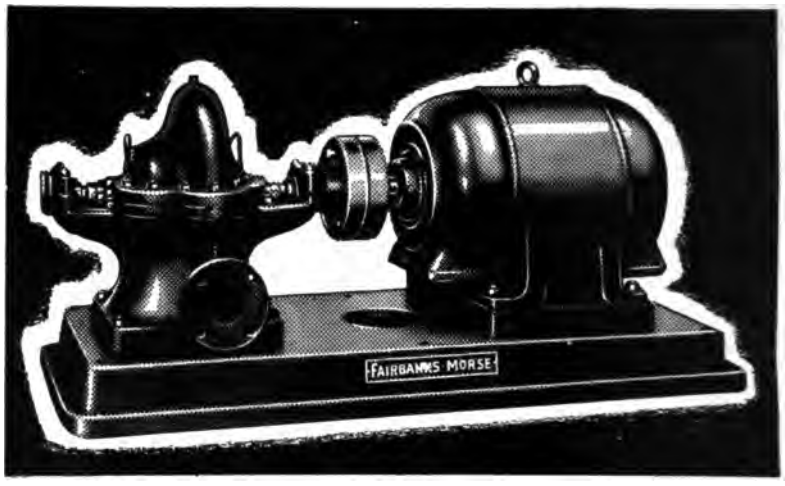
Toronto Passenger Club—Lyle Michie, Chicago, North Western Ry., Royal Bank Building, Toronto.

Toronto Railway Club—D. L. Chambers, P.O. Box 8, Postal Terminal A, Toronto. Meetings at Royal York Hotel, Toronto, fourth Monday of each month, except June, July and August. Annual meeting, Royal York Hotel, January 21, 1951.

Traffic Club of Hamilton—A. M. Johns, 4 King Street West, Hamilton, Ont. Meetings on second Thursday of each month, October to May. Annual meeting, December 14, 1950.

Traffic Club of Montreal—W. S. McConkey, Hon. Secretary-Treasurer, P.O. Box 433, Montreal. Meetings at Mount Royal Hotel, third Wednesday of each month from October to May. Annual meeting, third Wednesday in May.

Transportation Club of Toronto—W. G. Hamilton, Chief Clerk, Freight Claims Office, C.P.R., Simcoe and Wellington Sts., Toronto. Annual meeting, December 7, 1950, Royal York Hotel, Toronto.



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Dividend Notice

At a meeting of the Board of Directors held today a dividend of two per cent (fifty cents per share) on the Ordinary Capital Stock in respect of the year 1950 was declared payable in Canadian funds on October 2, 1950, to Shareholders of record at 3.00 p.m. on August 23, 1950.

Net earnings from railway operations for the six months ending June 30th, though showing a substantial improvement over the corresponding period of last year, are still insufficient for the paying of any dividend. While hopeful that better results may be achieved in the last half of the year, the Directors point out that the dividend declared today is attributable solely to the Company's income from other sources.

By order of the Board.

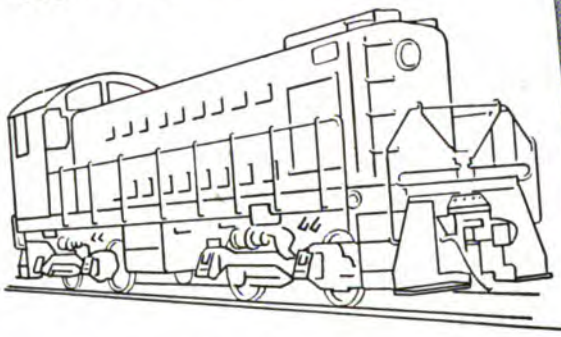
FREDERICK BRAMLEY,
Secretary.

Montreal, August 14, 1950.

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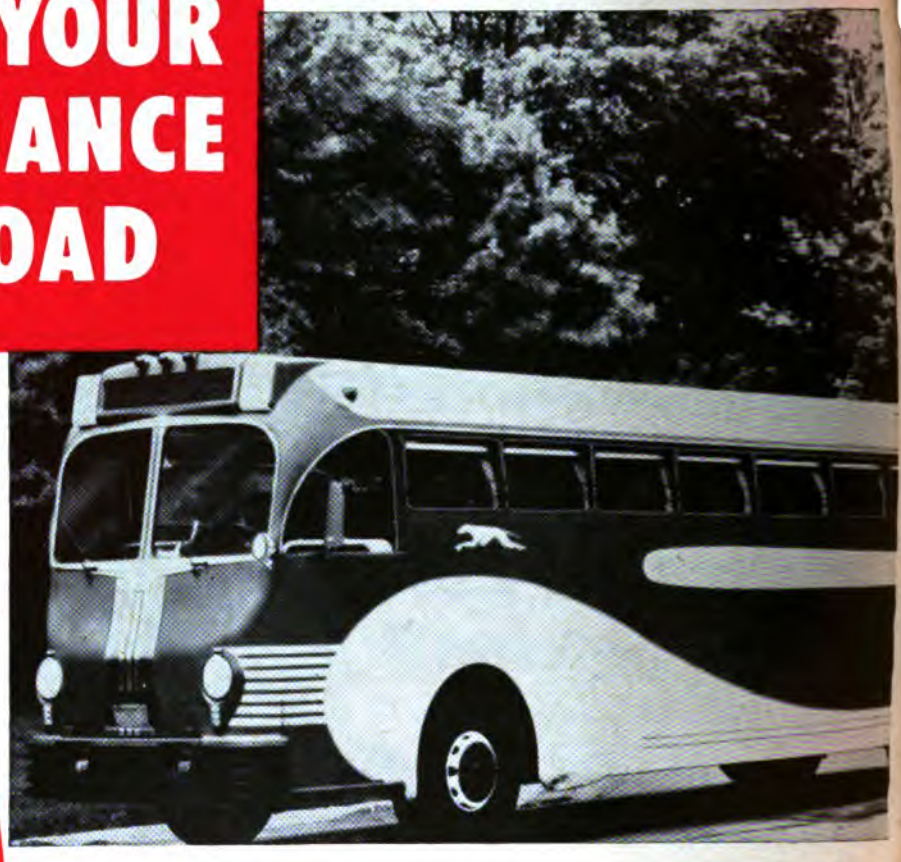


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For similar savings in wheel bearing maintenance, *use Texaco Marfak Heavy Duty.* It seals out dirt and moisture . . . seals in its protective lubricating film. Safer braking is assured.

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2 GREAT NEW HI-MILER TRUCK TIRES!





20% TO 25% MORE MILEAGE THAN PRESENT STANDARD TIRES!

Where experience shows you can't use heavy-tread tires, the new Hi-Miler Rib is your best bet by far!

Featuring a new, flatter, zigzag multi-rib tread design, the new Hi-Miler Rib Tread averages 20% to 25% longer, more even wear than present standard tires. This has been proved by actual fleet tests. In fact it sets a brand new standard in the industry for mileage, carcass life and trouble-free service.

NEW HI-MILER RIB TREAD



50% DEEPER TREAD FOR FAR GREATER MILEAGE, SUPER TRACTION!



If your present tires wear out in the tread long before other parts give way . . . here's the tire for you!

The new Hi-Miler Xtra Tred has 50% more rubber in the tread. It is the thickest, most rugged tread built on a heavy-duty tire . . . amazingly skid-resistant!

This great new tire gives you as much as 50% more mileage, and up to 60% more traction . . . yet *costs only 12½% more than regular tires!*

NEW HI-MILER XTRA TRED

These two tires, Hi-Miler Xtra-Tred and Rib Tread are revolutionary in their field. They will cut your operating costs like no other truck tire on the market!

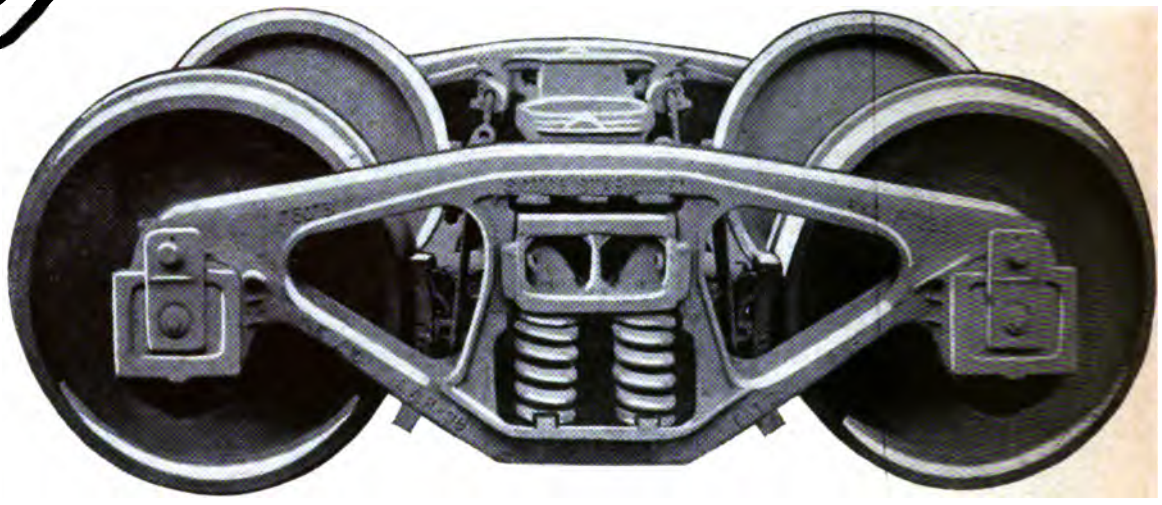
See your Goodyear dealer for expert advice and service. He can recommend the most economical tire for your operation.

GOODYEAR

MORE TONS ARE HAULED ON GOODYEAR TRUCK TIRES THAN ON ANY OTHER KIND



Sure it's a **Special** truck!



the **BARBER STABILIZED TRUCK**

. . . is so special that over 230,000 Car Sets have been ordered!



but . . .

A. A. R. Bolster and Side Frame Dimensions are retained in the Barber Stabilized Truck, for interchangeability.

And it's easy to dismantle because Barber Stabilizer Parts are freed when the Bolster is raised off the Springs!

So there's *nothing to lose* and *everything to gain* when you specify *Barber* Stabilized Trucks!

STANDARD CAR TRUCK COMPANY
332 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

Barber Stabilized Truck Parts Manufactured and Sold in Canada by
CONSOLIDATED EQUIPMENT CO., LTD.
Montreal

3101CR

Barber Lateral Motion Device Manufactured and Sold in Canada by
CANADIAN APPLIANCE CO., LTD., Montreal

Advance Style
FLEXIBLE SHAFT MACHINES
STRANDFLEX

Permits 4 RPM Changes by Easy Gear Shift

Quick change of RPM by an easy gear-shift method makes "STRANDFLEX" a versatile and efficient flexible shaft machine for multiple grinding and finishing. Encased heli-cut hardened steel gears are shifted by a slight rotary and axial movement.

The 4-speed gear-drive "STRANDFLEX" is available in horizontal, vertical and cabinet types to meet every shop requirement.

"STRANDFLEX" is another outstanding quality product engineered and perfected by STRAND.



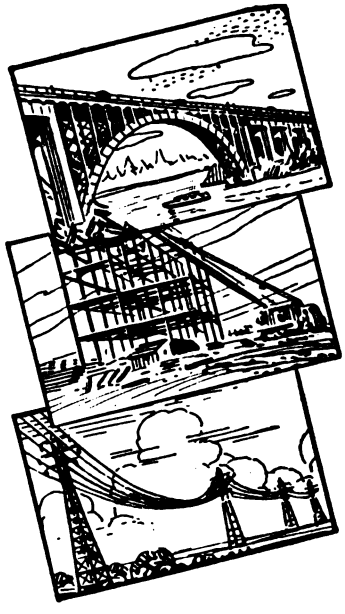
STRAND
Flexible Shafts and Flexible Shaft Machines

For full information on this up-to-date flexible shaft equipment and other machines manufactured by STRAND write today to Franklin Railway Supply Company, Canada, Ltd., 400 Atlantic Avenue, Outremont, Montreal 15.

MEN OF EXPERIENCE

BUILT THIS GRANDSTAND





New Grandstand of Canadian National Exhibition, Toronto, Fabricated and Erected by the men of Canadian Bridge. General Contractors—Pigott Construction Co. Ltd. Architects—Marani & Morris. Engineers—Wallace & Carruthers.

One of the most vital factors in the design, fabrication and erection of steel structures is the "know how"—gained from long experience—of the men on the job. For almost 50 years, Canadian Bridge has been acquiring a vast store of priceless knowledge and experience . . . in every climate . . . over every kind of terrain, not only in Canada but throughout the world. And today, the greater experience and varied skills of Canadian Bridge specialists, are at your disposal—to assure you of unqualified satisfaction and complete dependability.

HIGHWAY AND RAILWAY BRIDGES — WELDED MACHINERY BASES AND BEDPLATES
RADIO MASTS — MILL BUILDINGS — STANDARD AND OUTSIZE CUSTOM MACHINING
MARINE ENGINES — TRANSMISSION TOWERS — MINE HEADFRAMES
ELECTRIC FURNACES — PRECISION ROLL GRINDING — SCREENING EQUIPMENT

A COMPLETE SERVICE—

Full facilities for designing, fabricating and erecting all types of structural steelwork, riveted or welded—anywhere, any time.

CANADIAN INSTITUTE OF STEEL CONSTRUCTION CISC

C.B.

BETTER SPRAYED FINISHES



AT LOWER COST TO YOU...

because we insist on the best gun materials

Today, most all finishing departments are put to a grueling production pace—that means rough, reckless handling of equipment. Furthermore, the long-wearing finishes being spray applied today are not only rough themselves but are even tougher on the guns that handle them. Solvents are often quick to attack packings, hose, valve seats and even the metal too. Pigments and other solids in many present day finishes are highly abrasive and quickly wear away precision parts in ordinary spray guns.

Experience over the years with practically every known finishing material led DeVilbiss into the problem of combating wear and corrosion when spray guns first came into their own. Ever since, experimentation and research by DeVilbiss engineers have brought about a constant **series of improvement through the use of newly developed alloys and other materials. As a result, DeVilbiss has developed equipment which is certain to give longest possible service with all the other highly desirable advantages of** light weight, precision uniformity and high productivity with minimum maintenance. We find for example DeVilbiss drop-forged aluminum alloy gun bodies have extreme resistance to breakage besides reducing weight to minimize operator fatigue and give better maneuverability. Special non-corroding, wear-resisting materials used in fluid needles and tips combine with non-ferrous air caps to produce truly fine finishes for longer periods of service with reduced waste of materials and rejects.

For all finishing jobs, DeVilbiss equipment is matched to work best together, engineered to give you maximum value, maximum efficiency, lowest finish costs. Let the **DeVilbiss engineers advise you . . . let us send you literature.**

THE DEVILBISS MANUFACTURING COMPANY LIMITED

WINDSOR, ONTARIO

DE VILBISS

means **Quality** *in all four...*

SPRAY EQUIPMENT
EXHAUST SYSTEMS
AIR COMPRESSORS
HOSE & CONNECTIONS

It's a fact...

Historians claim that the standard railway gauge of 4' 8½" is the same as the distance between the wheels of a Roman chariot. This was established by Julius Caesar as the space covered by two strides of one of his soldiers.

— • —

To build the Lake Section of the C.P.R. required 12,000 men and 5,000 horses. Two hundred miles of this were described by Sir William Van Horne as "engineering impossibilities". The track around Jackfish Bay cost $400,000, and between Sudbury and Cartier a lake was lowered 10 feet to get a foundation for track.

It's a fact...



DULUX and other C-I-L Transportation Finishes keep equipment looking shop-new long after ordinary finishes have failed.

C-I-L Transportation Finishes are tough and durable . . . made to *TAKE IT*. Easily applied and quick-drying, they help to cut maintenance costs and reduce shop time to a minimum.

★ ★ ★

Paint and Varnish Division. Halifax, Montreal, Toronto, Winnipeg, Regina, Calgary, Edmonton, Vancouver.

CANADIAN INDUSTRIES LIMITED

CANADIAN INDUSTRIES C-I-L LIMITED
Transportation Finishes
SERVING CANADIANS THROUGH CHEMISTRY

CLEAN EVERY CAR...EVERY DAY
with a WHITING TRAIN WASHER

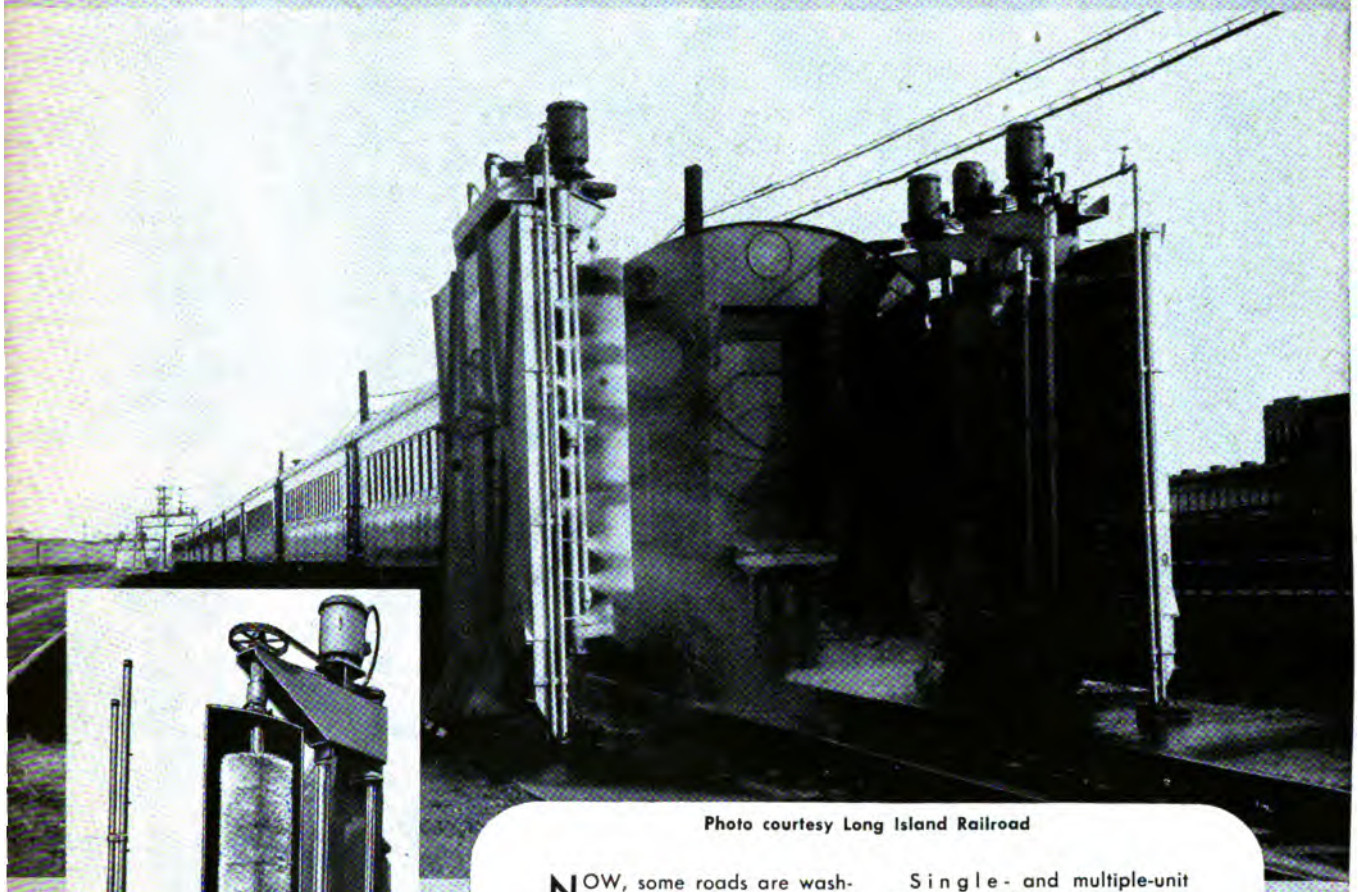
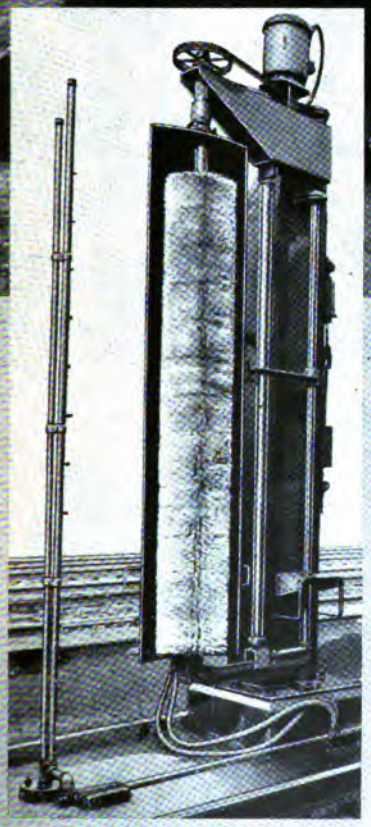


Photo courtesy Long Island Railroad



Each Whiting Washer brush has individual water spray. Self-aligning antifriction bearings to compensate for car tilt. Tough, white Tampico fibres for long life.

NOW, some roads are washing over 200 passenger cars a day with the Whiting Train Washer. They have eliminated slow, expensive hand-washing crews, and reduced lay-up time to the minutes required to run a complete train through the Whiting Washer.

Sprays of water or solution coupled with whirling, rugged brushes clean off road grime in no time. The Whiting Train Washer operates at speeds up to 80 feet a minute.

Single- and multiple-unit washer installations are engineered to meet your specifications for handling coaches, tenders, and Diesel locomotives . . . also for washing buses, trolley coaches, and other transit equipment.

Retractable roof brushes may be added easily to any existing installation; thus, a complete train, locomotive and all can be run through the Whiting Washer at the end of the run. Write for Bulletin CW-C-409 for more information.

Whiting Corporation (Canada) Ltd.

Main Office: 47-49 LaPlante Ave., Toronto 2

Sales Representatives—Montreal: H. T. Doran, 515 New Birks Bldg. Winnipeg: W. Bruce Campbell, 824-5 Royal Bank Bldg. Vancouver: Gordon Russell Ltd., 744 Hastings St. West.

HERE'S ONE FOR THE ROAD

REO "GOLD COMET" POWER

Marvellous comments from owners of the new Reo E-22, powered by Reo's "Gold Comet" engine are pouring in . . . " the snappiest tractor I ever drove" . . . "hauling a 20,000 lb. payload averaged 10.25 miles per gallon of gasoline besides cutting many minutes off normal schedule" . . . "you have to drive to believe it" . . .

Reo's "Gold Comet" engine is the most spectacular major truck development in over a quarter of a century. Why not learn more about it from your nearest Reo representative or write Reo Motor Company of Canada Ltd., Leaside, Toronto.

Here's a truck that's made for the steepest grade.

Its Gold Comet Power Saves many an hour.



BUILT, SOLD AND SERVICED IN CANADA

REO

TRUCKS AND BUSES





Low Cost MINERAL-FREE WATER WITH A DEARBORN DE-IONIZING SYSTEM

A Dearborn De-Ionizing system—built to the specific needs of your railroad—will provide all the mineral-free water you need . . . *and at less than 10% the cost of distilled water.*

This mineral-free water, when conditioned with Dearborn formula 517, will provide proper Diesel cooling to eliminate mechanical failure of liners, heads and blocks. This combination will protect cooling systems of engine-driven auxiliary generators and radiators of trucks, buses, scrapers, graders, caterpillars. Dearborn De-Ionizing systems will also produce mineral-free water for storage batteries and adequate supplies of scale-free, non-corrosive water for Diesel steam generators.

Investigate a Dearborn De-Ionizing system. The only information needed is: (1) analysis or sample of raw water supply; (2) quantity and quality of mineral-free water required; (3) available space for equipment; (4) raw water pressure and size of supply; (5) available power characteristics.



HAVE YOU REQUISITIONED YOUR DEARBORN CHROMOKIT?

It provides the only fast, simple, accurate and economical way to determine the chromate content of your Diesel cooling water. Only $7.50 each.

INFORMATION ON DE-IONIZING SYSTEMS

A copy of "Dearborn De-Ionizing Systems," containing valuable information about how to secure the mineral-free water you need, will be sent on request.



DEARBORN CHEMICAL COMPANY LTD.
2454 Dundas St. W. • Toronto 9
MONTREAL ST. JOHN

Dearborn
TRADE MARK REGISTERED
THE LEADER IN WATER TREATMENT AND RUST PREVENTIVES

Dearborn Chemical Company Ltd.
2454 Dundas St. W., Toronto 9
Dept. CT

Gentlemen: () Please send booklet "Dearborn De-Ionizing Systems."
() Have a Dearborn engineer call.

Name
Company
Address
City Prov.

BETHLEHEM STEEL

is an achievement of Technical Skill and Modern Methods

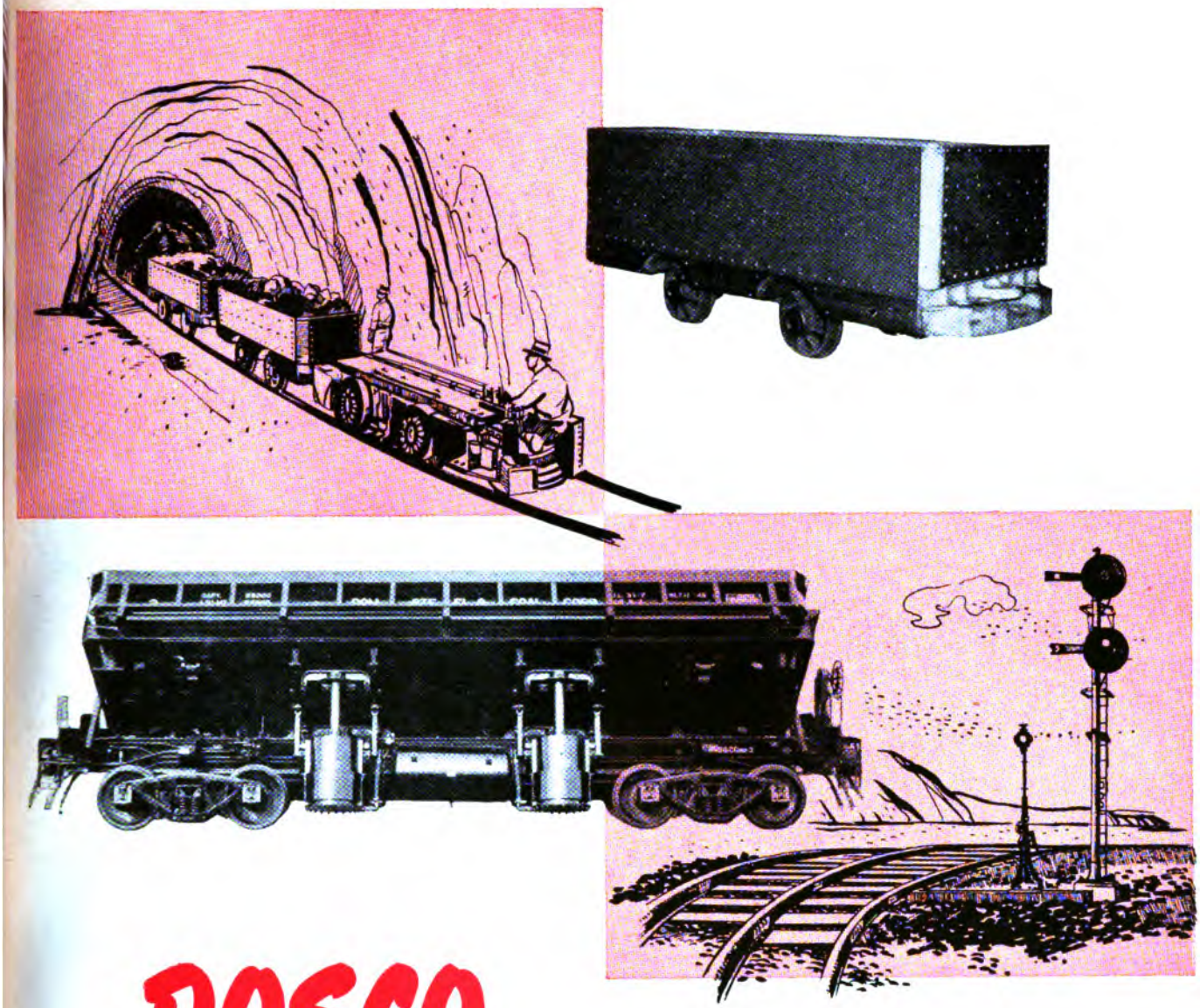
A continent-wide yet completely *integrated* organization, Bethlehem maintains centralized, positive control over all phases of production from mining the ore to shipping the finished steel. Under this constant, expert control, work steelmakers of great technical skill, employing methods and equipment that are as modern as any in the world. The Bethlehem steel products they produce justify these high production standards in terms of dependable service and uniformly excellent quality.



BETHLEHEM STEEL EXPORT CORPORATION
25 Broadway, New York 4, U.S.A. Cables: "BETHLEHEM NEWYORK"

Canadian Offices:
Montreal, Que., Dominion Square Bldg. • Toronto, Ont., Royal Bank Building • Vancouver, B.C., Marine Building

405C



DOSCO

mine and general service cars . . .

• The Eastern Car Company can manufacture cars of all types. Pictured above are (top) 3-ton capacity mine car, with anti-friction Timken bearings and (bottom) a 50-ton capacity 30 cubic yard air dump car. Of Austin-Western design it represents the most modern of its kind.

DOSCO

THE EASTERN CAR COMPANY LIMITED

Trenton, N.S.

General Sales Office: 624 Canada Cement Building, Montreal, Que.

A division of

DOMINION STEEL AND COAL CORPORATION LIMITED



the NEW electrode with the QUIET, SMOOTH, EASY operating arc

Best for these applications:

- Railroad cars
- Earth moving equipment
- Materials handling equipment
- Trucks and trailers
- Building structures
- Bridges
- Storage tanks
- Farm implements
- Boiler stacks
- Jigs and fixtures



This new electrode puts real guts into a weld and yet is so easy to use. No matter how we explain its features —

"REAL EASE OF OPERATION
"EXCELLENT APPEARANCE!
"MOST WELDS PRACTICALLY SELF-CLEANING
"EXTREMELY QUIET ARC
"MINIMUM SPATTER LOSS
"VERY SMOOTH BEAD SURFACE
"GOOD SLAG COVERAGE
"GOOD CONTROL OF BEAD SHAPE IN LARGE FILLETS IN ALL POSITIONS"

—only by a trial run under your own conditions will you begin to see how truly its performance suits your needs. Try it with AC or DC on mild steel in all positions. (A.W.S. Class—E6013).

LINCOLN ELECTRIC CO. OF CANADA LTD.
167 Wickstead Ave., Leaside (Toronto 17) Ont.

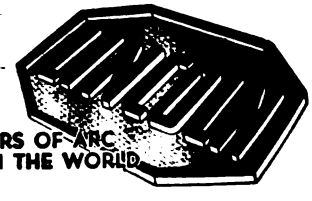
FREE—Please send me full information on FLEETWELD 47 ELECTRODES

NAME

COMPANY

ADDRESS

POSITION



LARGEST MANUFACTURERS OF ARC WELDING EQUIPMENT IN THE WORLD

MINNEAPOLIS-HONEYWELL REGULATOR COMPANY, LTD.
MH CONTROL SYSTEMS • BROWN INSTRUMENTS

VANDERHOOF AVE LEASIDE
TORONTO 17, CANADA
TELEPHONE HYLAND 2151

November 28, 1949

The Manager,
Business Newspapers Association,
137 Wellington Street West,
Toronto.

re: Business Paper Advertising

Dear Sir:

Honeywell has always been a consistent user of Business Paper Advertising. We believe it is the cheapest way, and often the only way, to reach the prospects in any specific market.

The long-term job of gaining company and product acceptance in any market is chiefly delegated to Business Paper Advertising.

Business Paper Advertising always supports our major sales programmes, so that prospects may be preconditioned to some extent before our salesmen reach them. We believe this helps enormously in making our salesmen's time more productive.

Yours very truly,

MINNEAPOLIS-HONEYWELL REGULATOR CO. LIMITED

General Manager

W.H.Evans/g



W. H. EVANS
General Manager
Minneapolis-Honeywell
Regulator Company
Limited

HONEYWELL HAS ALWAYS BEEN A CONSTANT USER OF BUSINESS PAPERS

"In making our salesmen's time more productive, business paper advertising helps enormously!" So states Mr. W. H. Evans, General Manager of Minneapolis-Honeywell, in the letter above.

Serving every type of manufacturing and process industry, this company maintains offices at Leaside, Montreal, London, Winnipeg, Calgary, and Vancouver. But they find business paper advertising is the most economical way—and often the only way—to reach their prospects. How their use of business papers has increased, and how their sales have increased, is shown in the accompanying graph.

The B.N.A. includes merchandising, industrial, service, and management publications, serving every branch of business and industry. One or more of them covers YOUR prospects, economically and effectively.



Graph shows a comparison of business paper advertising expenditures and gross sales figures, during the 10-year period 1939 — 1949, for Minneapolis-Honeywell Regulator Co. Ltd., Leaside, Ontario.

The emblem that identifies BNA *business papers of character*

BUSINESS NEWSPAPERS ASSOCIATION
OF CANADA
137 Wellington St. W., Toronto, Ont. Telephone WA. 3462

They're Here! 2 NEW

WELLES-MARMON-HERRINGTON *Coaches*

MODEL 8MB—27-29 PASSENGERS
MODEL 8M2B—31-35 PASSENGERS



WELLES QUALITY
MAXIMUM SERVICE
HIGH EFFICIENCY

Now made in Canada—and that means a lot to operators, as is amply evident from the response to our initial announcement. It means much closer contact between manufacturer and owner—quicker deliveries—and completely satisfactory servicing of all buses coast to coast. This applies not only to the new W-M-H coaches now being produced in our plant but also to previous models of Ford buses.

PARTS and SERVICE

In our new plant extension, now nearing completion, a separate department has been set up to ensure full and complete service to all present owners of Ford coaches everywhere in Canada. Parts orders can be executed in 24 hours.

Write for information on the Big Economy 6 Replacement Engine assembly for all Ford V-8 buses. Easily installed in your own service department.

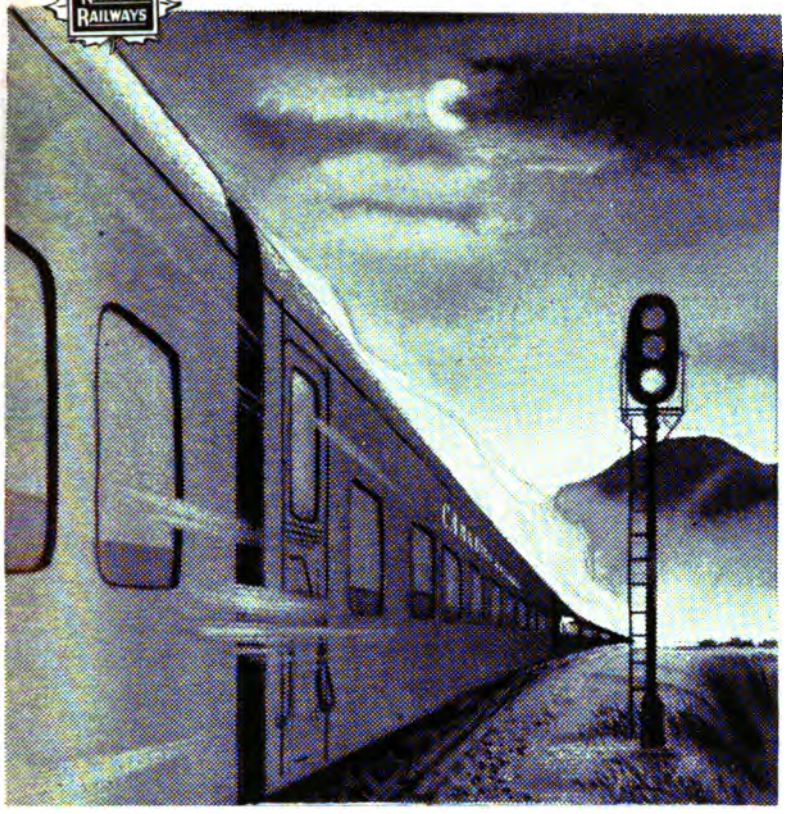
WELLES CORPORATION LIMITED

WINDSOR ONTARIO

FREDERICTON	MONTREAL	TORONTO	CALGARY	VANCOUVER
A. T. Paisley	Philip Cadrin	2491 Yonge St.	1119 Dorchester Ave.	1915 Granville St.
Box 395—Phone 5123	1500 St. Catherine W.	Phone Mayfair 5183		Phone Bayview 2214
	Phone Fitzroy 1965			

CANADIAN NATIONAL RAILWAYS

THE ONLY RAILWAY SERVING ALL TEN PROVINCES



Relax- SLEEP THE MILES AWAY

In this demanding age, it is only sound judgment to spare yourself unnecessary strain . . . so travel by train. Only by the railway do you combine so adequately those essentials of enjoyable travel — speed, comfort and dependability.



Train travel by night is the great economizer of time and energy. The miles slip by in this period of peaceful rest. In the air-conditioned comfort of spacious Canadian National berth or bedroom, you reach your destination refreshed and ready for the activities of a new day.

CANADIAN NATIONAL

COURTESY AND SERVICE



CHILLED IRON CAR WHEELS

for all services

RAILWAY CASTINGS

CAST IRON PIPE-FLANGED

and BELL and SPIGOT

CANADA IRON FOUNDRIES LIMITED

HEAD OFFICE

Sun Life Bldg. Montreal



POSITIVE BRAKE BEAM
(Trade Mark)

18,000 pound capacity



AAR NO. 18
CERTIFICATE No. 52

No threaded rod — No nuts.
Strap tension member.
The long-lived beam that reduces maintenance.

The Positive Beam is
the Railroads' Dream.

CHICAGO RAILWAY EQUIPMENT CO.

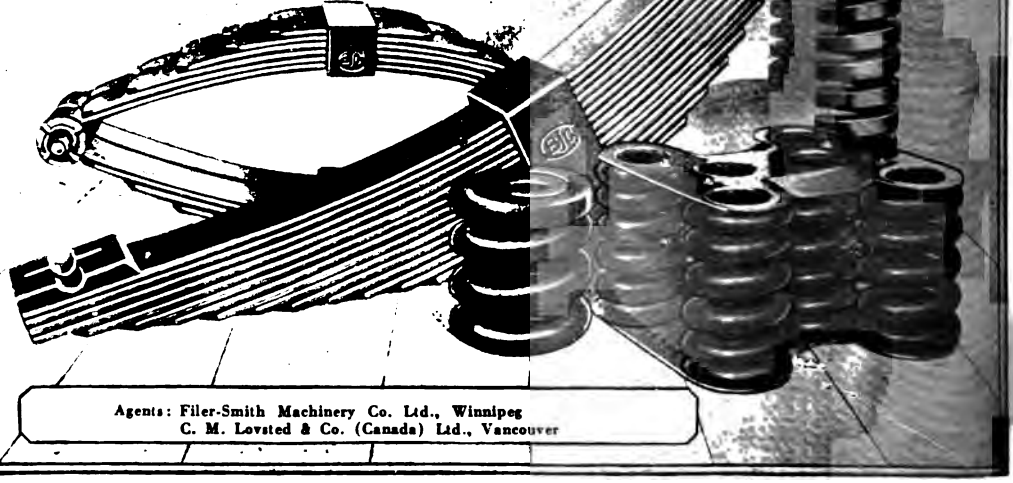
CHICAGO

Manufactured in Canada and sold by Canadian Appliance Company, Montreal

COGHLIN SPRINGS
FOR QUALITY AND SATISFACTION

Our eighty-one years' Canadian reputation and experience ensures that you can safely specify COGHLIN for all your spring requirements.

B-J COGHLIN CO. Limited
3320 ONTARIO STREET EAST
MONTREAL, CANADA
Established 1869



Agents: Filer-Smith Machinery Co. Ltd., Winnipeg
C. M. Lovsted & Co. (Canada) Ltd., Vancouver

BOWSER

HIGH CAPACITY

FUELING UNITS

Made in Canada

FOR RAPID REFUELING OF BUSES, TRANSPORTS, TRUCKS

USED BY

FLEET OPERATORS
PUBLIC UTILITIES
FREIGHT COMPANIES

These neat, compact and reliable units by the "Makers of America's finest engineered pumps" are distinctive both in appearance and performance. The Bowser standard of high quality guarantees accurate measurement and efficient operation.

3 MODELS

15 I.G.P.M.
25-30 I.G.P.M.
35-40 I.G.P.M.

BOWSER XACTO PRINTING PUMP



For Trucks, Buses, Commercial Garages, Service Stations, Taxi Cabs, Industrial Plants. Offers a sure means of exercising complete control over liquids bought or used. Operation is positive, and printing is automatic, providing accurate and uniform records.

WRITE FOR COMPLETE INFORMATION

LIQUID CONTROL SPECIALISTS SINCE 1885

S. F. BOWSER COMPANY LIMITED
344 SHERMAN AVENUE NORTH - - HAMILTON, ONTARIO
MONTREAL TORONTO WINNIPEG REGINA CALGARY VANCOUVER



Manufactured and sold in Canada under Canadian patents.

refrigerator car metal floor racks



URECO floor racks in raised position. Note lateral and longitudinal air circulation freedom.

Wooden floor racks splinter, warp and absorb moisture and odors from the load. This has been the cause of many losses and damage claims.

URECO metal floor racks, available in lightweight alloy steel or aluminum alloy, eliminate these losses and *eliminate maintenance cost*, too! The original cost—only slightly more than wood racks—is a wise investment, whether for new or replacement installations. Available in any height and section modulus required.

FOR CATALOG WRITE TO:

UNION RAILWAY EQUIPMENT COMPANY
332 S. MICHIGAN AVENUE
CHICAGO 4, ILLINOIS

*® USA and Canada



URECO floor racks in position for use. Note level floor, clean, splinterless.

Canadian Representative:
WAYNE K. DAVIDSON
1838 Dorchester St. W.
MONTREAL, QUEBEC

HUNT-SPILLER GUN IRON BRAKE DRUMS



IMMEDIATE DELIVERY FROM STOCK

FOR

C.C.F. BRILL MODEL C-36 (FRONT)

HUNT-SPILLER STYLE No. 2040

C.C.F. BRILL MODEL C-36 (REAR)

HUNT-SPILLER STYLE No. 2041

FULLY **GUARANTEED—MADE** FROM

HUNT-SPILLER GUN IRON

FAMED FOR QUALITY SINCE 1810

Write For New Descriptive Pamphlet and Prices

JOSEPH ROBB AND COMPANY LIMITED

TORONTO . . . HAMILTON . . MONTREAL . . . VANCOUVER



FIRING WITH STANDARD HT STOKER

Modern Steam Power

MODERN STEAM POWER mechanically fired is capable of high utilization and outstanding reliability of performance. The widespread use of Standard Stokers on railroads throughout the world is proof of their fulfillment of every firing requirement.

THE STANDARD STOKER COMPANY, INC

NEW YORK · CHICAGO · ERIE · MONTREAL

STANDARD STOKERS FOR CANADA *Made in Canada*

SSC

Another
REASON
to Specify
Elesco Controlled Recirculation
Steam Generators for *your* Train Heating

MORE THAN 36,000
Steam Generators have been designed and built during the past 66 years by this company or its associates

THE
SUPERHEATER
CO., Limited

Canadian Representatives of American Throttle Co., Inc., of New York

540 Dominion Sq. Bldg., MONTREAL, QUE.

ELESCO

Works at SHERBROOKE, QUE.

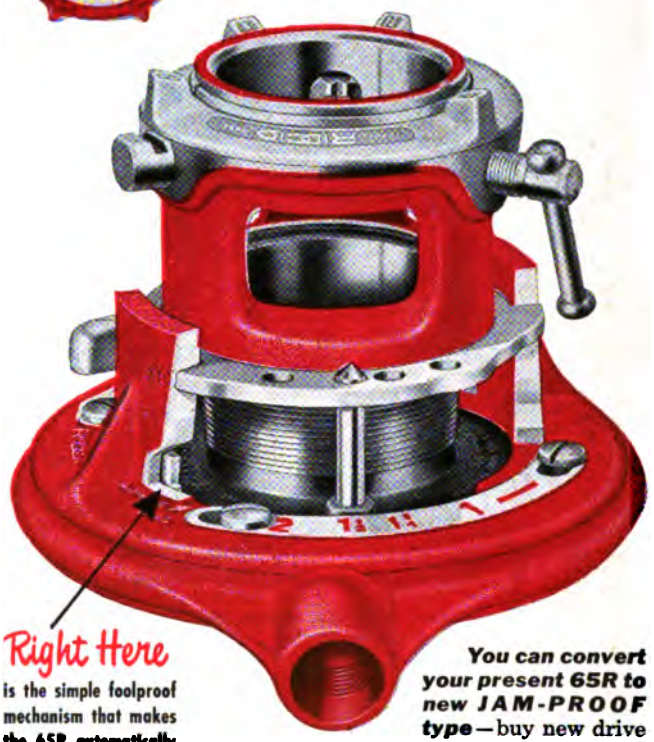
Superheaters - Feed Water Heaters - Exhaust Steam Injectors
Superheated Steam Pyrometers - Pipe Coils for all Purposes
American Throttles - Tangential Steam Dryers

MADE IN CANADA A-1559

NOW New Streamlined RIDGID 65R
Die Stock that WON'T JAM
. . . while threading with power drive or by hand



New *JAM-PROOF* drive plate automatically kicks out driving ratchet pawl when standard length thread is cut. You don't have to watch it — lead screw can't jam on workholder.



Right Here is the simple foolproof mechanism that makes the 65R automatically Jam-Proof

You can convert your present 65R to new JAM-PROOF type — buy new drive plate, put in place of old plate.

All other RIDGID 65R features remain the same

Perfect threads on 1" to 2" pipe with 1 set of high-speed steel dies — sets to pipe size in 10 seconds — mistake-proof self-centering workholder sets instantly — and now it's *Jam-proof.*

Buy new JAM-PROOF 65R at your Supply House

RIDGID
WORK-SAVER PIPE TOOLS
THE RIDGE TOOL CO. • ELYRIA, OHIO



Aircraft carrier H.M.C.S. *"Magnificent"* in large dry dock and ferry *"Prince Edward Island"* entering tidal dock.

SAINT JOHN DRY DOCK CO. LTD.

SHIPBUILDING AND SHIP REPAIRS
DRY DOCKS
STRUCTURAL STEEL WORK
DREDGING AND GENERAL ENGINEERING

EAST SAINT JOHN—NEW BRUNSWICK

Cables: DRYDOCK, Saint John



BEGINNING A
SECOND CENTURY OF PROGRESS WITH CANADIAN RAILROADS

240 HP
0-4-0 TYPE
GAUGES 30"
AND UP.



35 Ton Diesel Electric



Canadian Locomotive Company Limited
85 RICHMOND ST. W. TORONTO — KINGSTON ONTARIO

PLATE WORK FORGINGS FABRICATED EQUIPMENT

You can **depend** *on* —

DUNLOP



WRAPPED DUCK HOSE

FOR WATER, AIR, STEAM, OXYGEN, ACETYLENE, GASOLINE AND OIL

Our Engineering Service is at your disposal and we will gladly co-operate with you in the practical application of Dunlop Industrial Rubber Products.



WRITE FOR IT NOW!

During the past months The Bank of Nova Scotia's Monthly Review covered a wide range of subjects, from a discussion of the significance of oil developments in Alberta to a timely survey of the implications of sterling devaluation.

Each month, in this fashion, the Monthly Review discusses some topic of interest to the businessman who likes to keep abreast of the times.

If this service would be useful to you, we would be happy to add your name to the mailing list. Write: The Bank of Nova Scotia, General Office, Toronto.



S-307

genuine

GENERAL ELECTRIC

RENEWAL PARTS



keep your equipment running smoothly

CANADIAN GENERAL ELECTRIC CO LTD

HEAD OFFICE TORONTO
SALES OFFICES COAST TO COAST

49-EL-1

STEEL CASTINGS

for

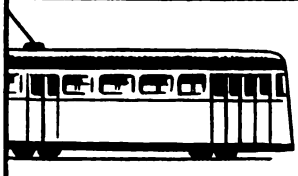
RAILWAYS and
RAILWAY SPECIALTIES
SHIPBUILDING
MOTOR COACH INDUSTRY

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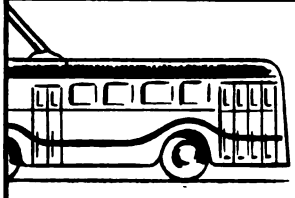
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Laboratory Controlled
All Steels and Alloys

MANITOBA STEEL FOUNDRIES
LIMITED
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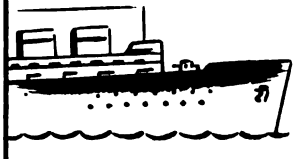
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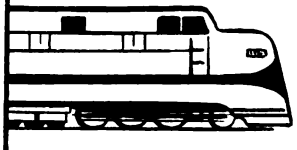
All PCC cars manufactured in Canada are inspected and tested by WARNOCK for tramway companies.



WARNOCK inspects trolley coaches and busses, both gas and diesel, during manufacture and carries out maintenance and safety tests of busses and drivers for insurance companies and operatofs.



During ship construction or refit WARNOCK engineers inspect materials and workmanship, for owner or purchasor.



WARNOCK inspects, tests and expedites rolling stock, rails, track fastenings, castings, timber, electrical and diesel equipment, parts etc. for railway companies.

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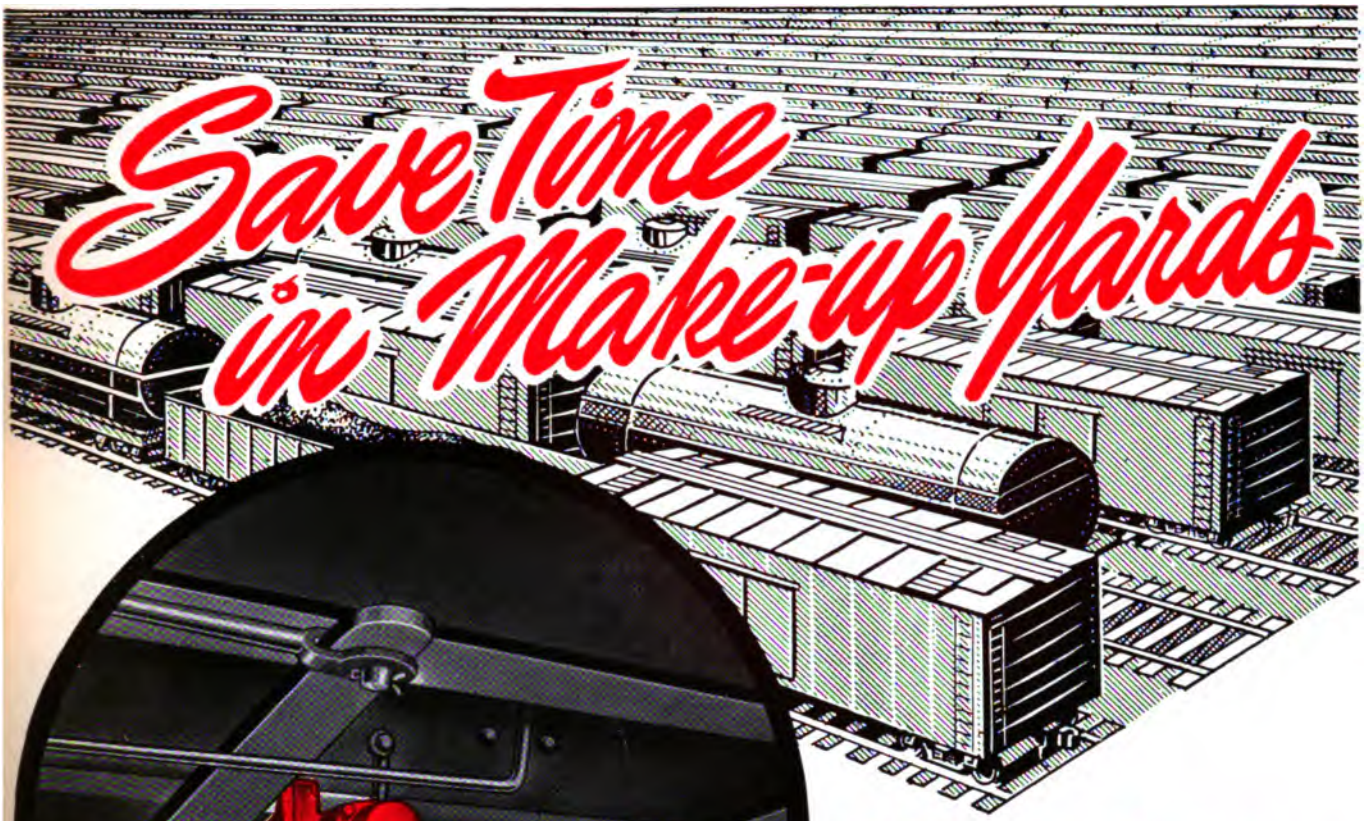
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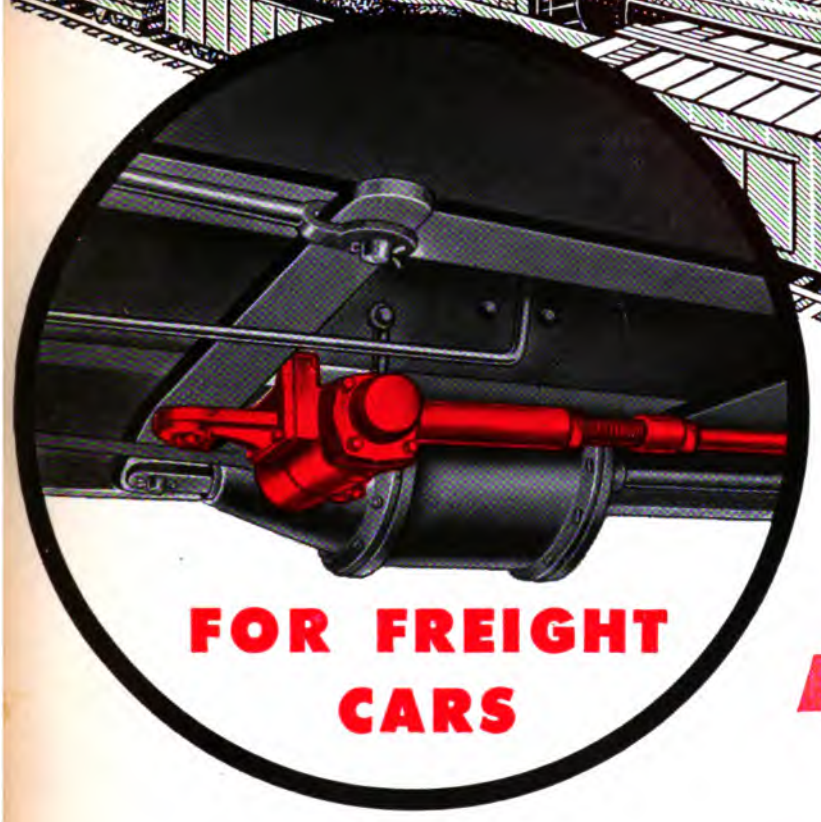
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EVERY TRIP IS A "HOLIDAY TRIP"



Save Time in Make-up Yards





FOR FREIGHT CARS

Westinghouse Pneumatic AUTOMATIC SLACK ADJUSTER

EASILY INSTALLED
No mounting brackets required.

STURDY CONSTRUCTION
Shock resisting materials used throughout. Built for the life of the car.

MINIMUM MAINTENANCE
No manual adjustment required for the life of the brake shoes.

SIMPLE ADJUSTMENT
Only simple manual adjustment required when brake shoes are replaced.

Streamline your yard operations by eliminating the manual adjustment of rigging on freight cars!

This new Westinghouse Automatic Slack Adjuster is basically the same as used so successfully for many years on passenger cars.

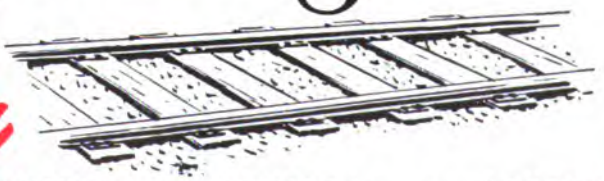
You can apply it to existing freight car equipment with only very minor changes in the brake cylinder lever system.

Ask about it or write for Descriptive Leaflet 2468.

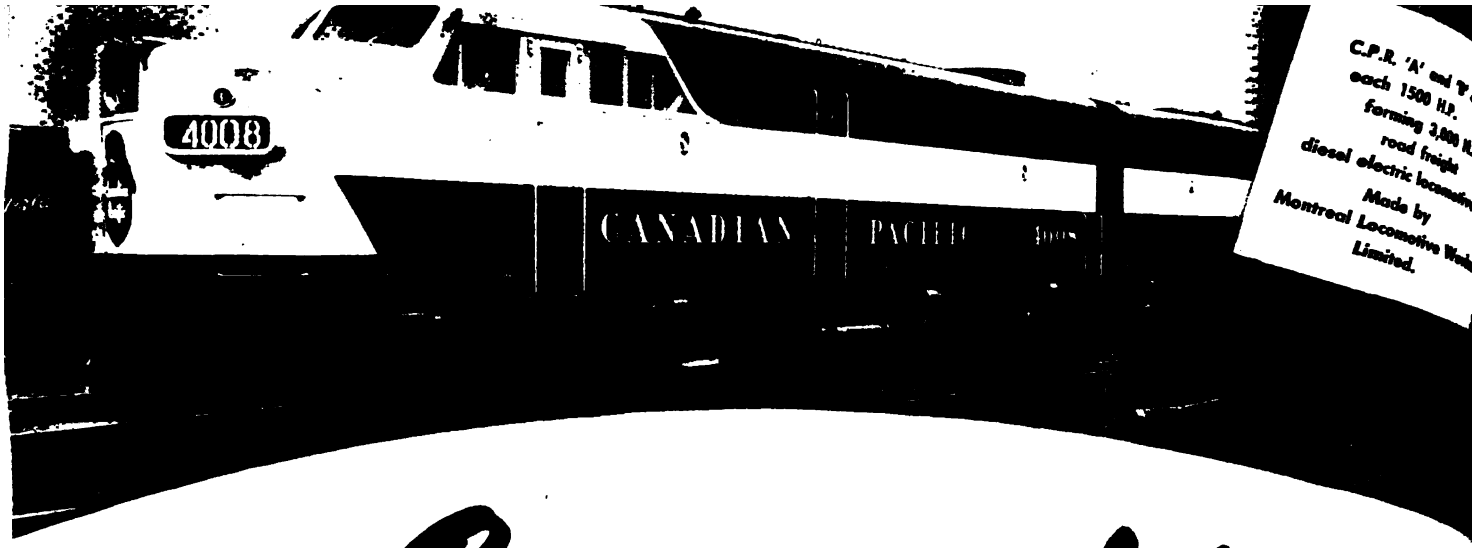
971 T 900

Westinghouse

Air Brake Division

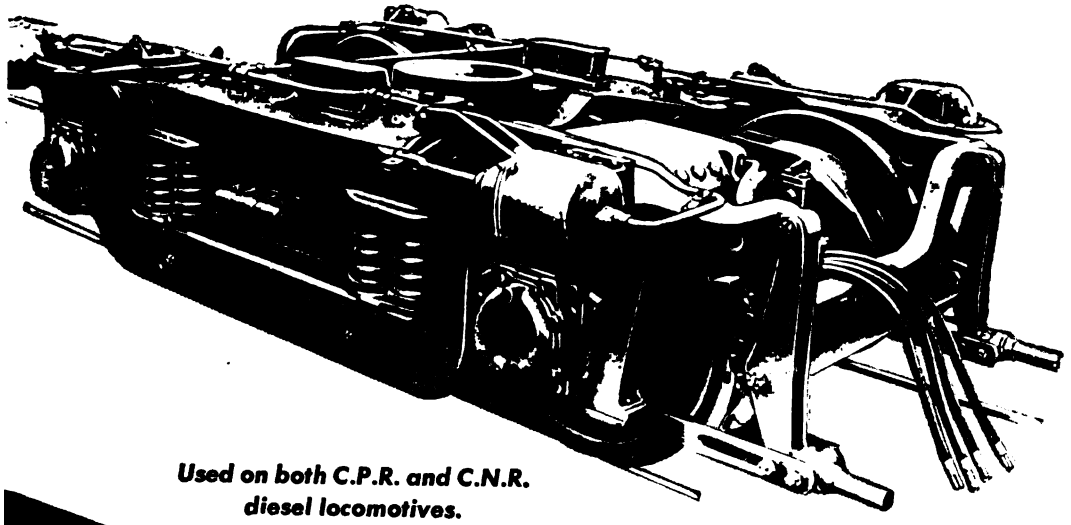


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C.P.R. 'A' and 'B' each 1500 H.P. forming 3,000 H.P. road freight diesel electric locomotive. Made by Montreal Locomotive Works Limited.

Commonwealth Locomotive Trucks



Used on both C.P.R. and C.N.R. diesel locomotives.

Made in Canada by CANADIAN CAR & FOUNDRY Company Limited



Two C.N.R. 1500 H.P. 'A' units forming one 3,000 H.P. diesel electric road freight locomotive. Made by Montreal Locomotive Works Limited.

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MONTREAL • FORT WILLIAM • BRANTFORD • AMHERST

Canada's largest manufacturers of railway [illegible]

Canadian Transportation

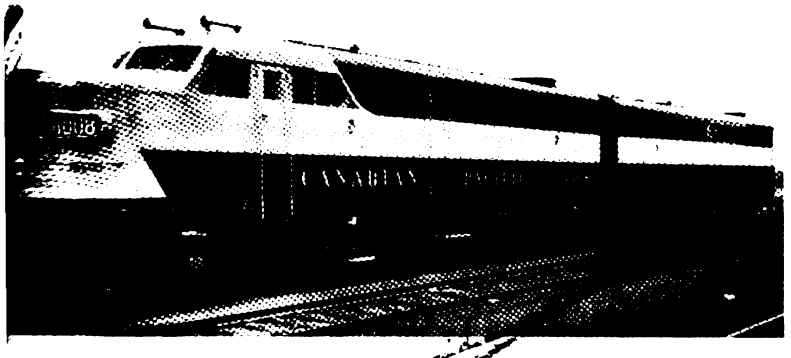
Founded 1898 by Acton Burrows

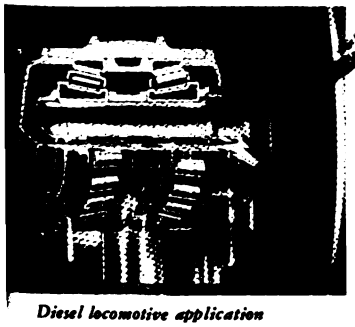
TORONTO, OCTOBER, 1950

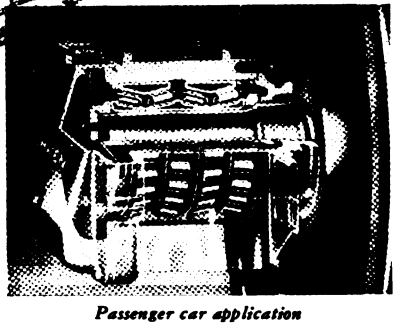
...AYS ELECTRIC RAILWAYS TROLLEY COACHES AUTOMOTIVE AIR MARINE

Canadian trains will roll on IMKEN® bearings — "MADE IN CANADA"









Diesel locomotive application

Passenger car application

FOR the past 20 years both the Canadian Pacific and Canadian National Railways have equipped passenger cars and locomotives with Timken® tapered roller bearings imported from the U. S. A. But now Timken bearings are being produced *in Canada* at the St. Thomas plant of The Timken Roller Bearing Company. Already Canadian-made Timken bearings are in use on streamlined diesel-electric locomotives built by the Montreal Locomotive Works. Passenger cars now under construction soon will assure a fast, comfortable ride with Timken railroad bearings *made in Canada.*

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For help with your bearing applications, write The Timken Roller Bearing Company, St. Thomas, Ontario. Cable address: "TIMROSCO". Canadian Representatives for Timken Bearings for Railroads: Railway & Power Engineering Corp., Ltd., New Glasgow, Montreal, Noranda, North Bay, Toronto, Hamilton, Windsor, Winnipeg, Edmonton, Vancouver.

TIMKEN

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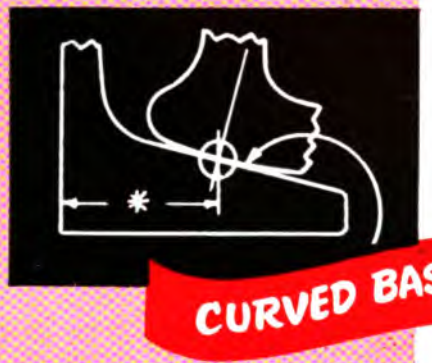
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NOT JUST A BALL ◯ NOT JUST A ROLLER ⬭ THE TIMKEN TAPERED ROLLER ⬭ BEARING TAKES RADIAL ◐ AND THRUST →◐← LOADS OR ANY COMBINATION ✳

Modern Rail Joint *Design*



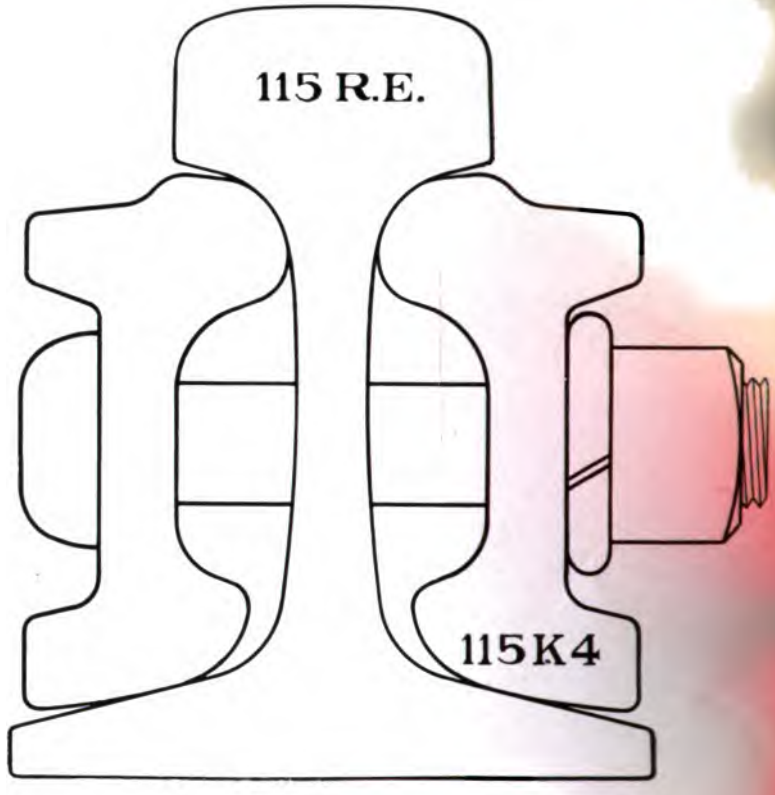
HEADFREE



CURVED BASE



IMPROVED HEADFREE



IMPROVED HEADFREE JOINTS for new designs of rail have all features inherent in old design Headfree joints, including greater strength in the head, also the more recent improvement of the curved base and, in addition, greater head bearing due to increased head fillet in new TR and AREA rail designs. The results from these designs, we firmly believe, will surpass the outstanding service performed by the Headfree joints, over 35,000,000 of which have been furnished to the big majority of the railways in Canada and the United States.

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From Fish Plate to Modern Rail Joint

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Dominion Square Building - Montreal 2, P.Q.

STANDARD and ARMORED INSULATED JOINTS : STEP JOINTS and FIBRE INSULATION

THE NEW

BUFFALO-UNIT

No. 18

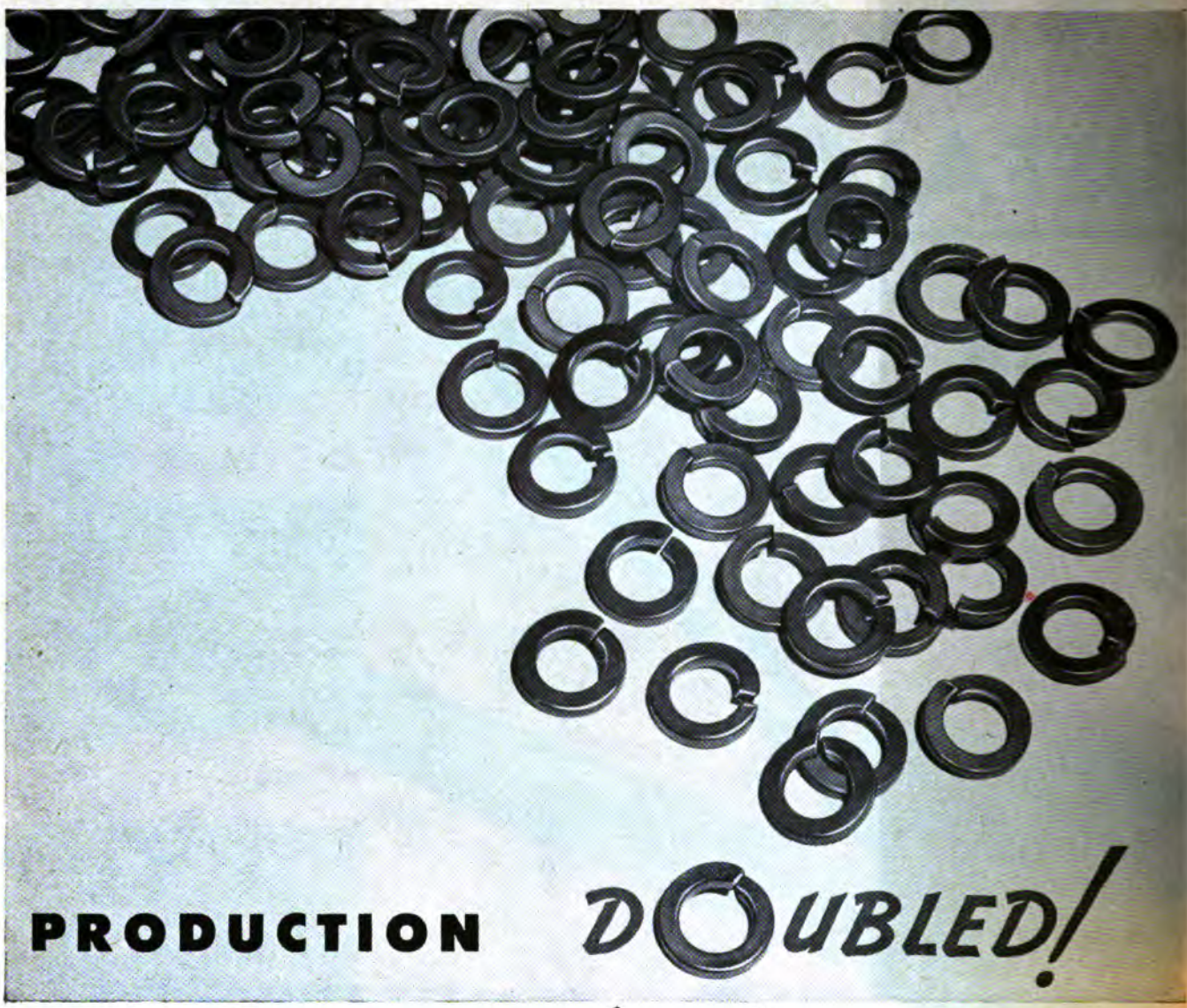


N THE FEW MONTHS SINCE THE DESIGNATION

OF THE No. 18 AS STANDARD

145,324 BUFFALO UNITS

AVE BEEN BOUGHT BY THE U. S. RAILROADS



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to meet your demands for STELCO SPRING Lockwashers



Stocked in the following sizes:

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¼" to 1½" for use with Bolts or Screws.

To A.S.A. and S.A.E. Specifications.

Made in Canada! Made by Stelco! Quality controlled to the Stelco standard — from ore to finished product. Available in a wide variety of sizes for practically every type of bolt attachment. Specify Stelco Spring Lockwashers on your next order.

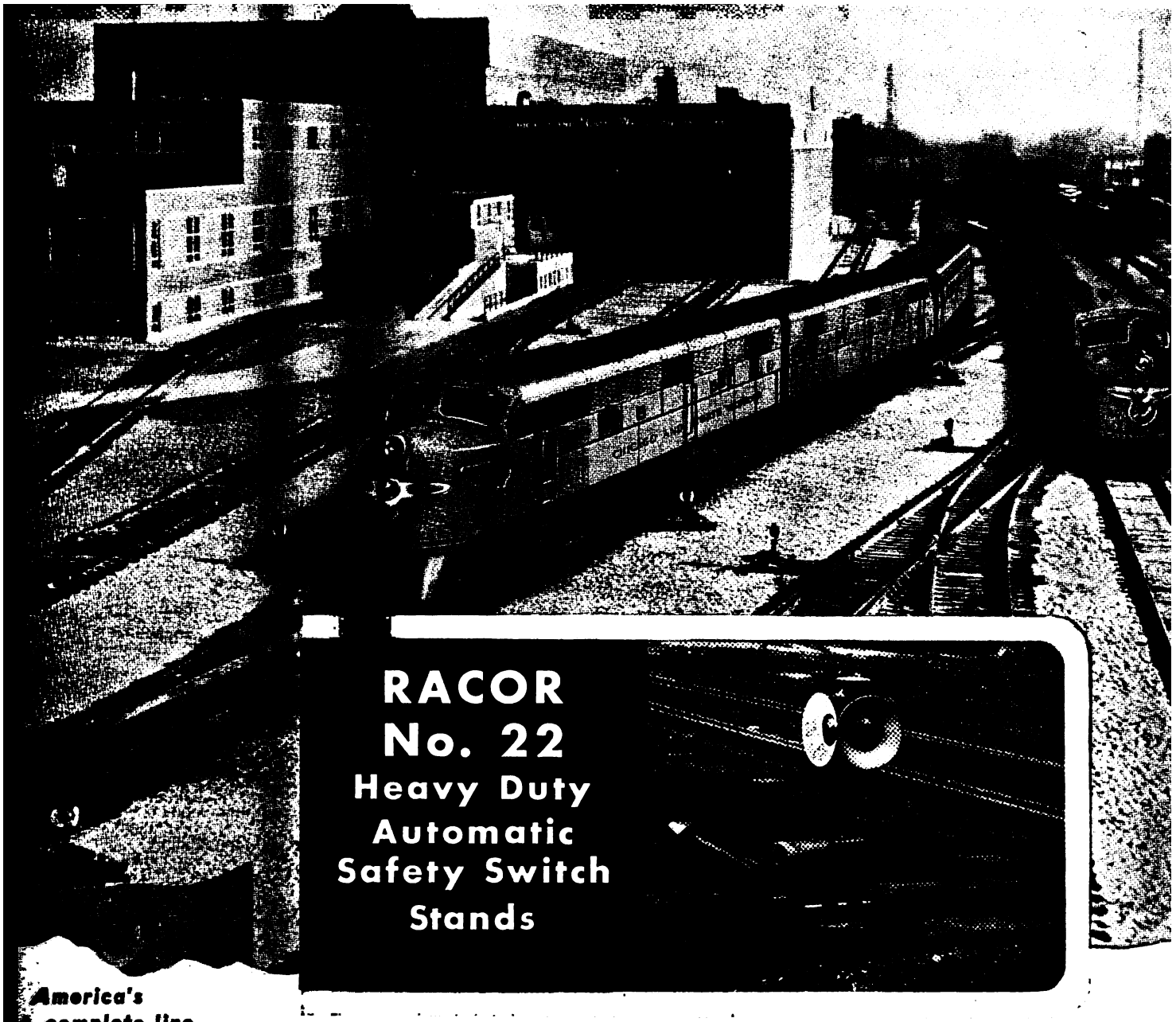
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THE STEEL COMPANY OF CANADA, LIMITED

EXECUTIVE OFFICES
HAMILTON - MONTREAL

STELCO
THE MARK OF QUALITY

SALES OFFICES:
HALIFAX, SAINT JOHN, MONTREAL, OTTAWA, TORONTO, HAMILTON, LONDON, WINDSOR, WINNIPEG, VANCOUVER
J. C. PRATT & CO. LIMITED, ST. JOHN'S, NEWFOUNDLAND



RACOR No. 22 Heavy Duty Automatic Safety Switch Stands

America's complete line track specialties

AUTOMATIC SWITCH STANDS

VERTICAL SWITCH RODS

SAMSON SWITCH POINTS

SWITCH POINT LOCKS

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Provide safety and economy on the Chicago and North Western Railway

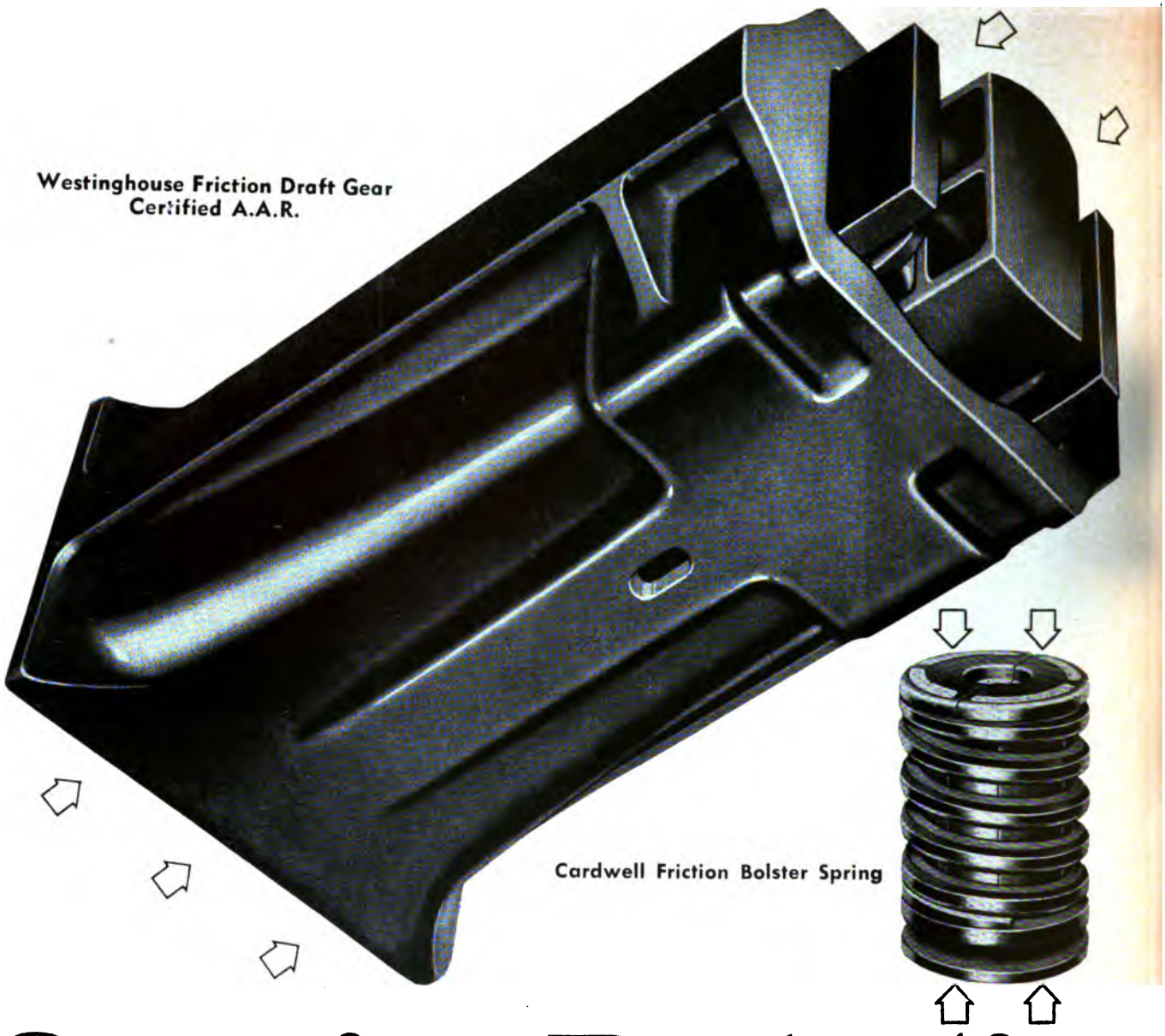
Racor No. 22 Heavy Duty Automatic Safety Adjustable Switch Stands have been installed with the track facilities serving the North Western's new Chicago Diesel Shop. Recommended for all busy switching turnouts that are frequently run through, these stands operate either manually or automatically. Adjustment to fit slight variations in the throw of switches is provided by a heavy 1¾" diameter adjustable crank eye. Target and lamp rotate with switches whether thrown manually or automatically. During automatic operation the hand lever remains stationary. Write for descriptive literature.

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DOMINION Brake Shoe COMPANY, LTD.

CANADIAN RAMAPO DIVISION

NIAGARA FALLS ONTARIO



Superior Protection *from* Every Direction

Westinghouse Friction Draft Gears and Cardwell Friction Bolster Springs provide superior protection for Cars and Lading by absorbing horizontal, vertical and lateral shocks; and by checking excessive bouncing, lurching and rocking.

Over 98% of the cars in freight carrying service are A.A.R. construction and over 96% have Friction Draft Gears.

2135R

Manufactured in Canada

Cardwell Westinghouse Co., Chicago

Canadian Cardwell Co., Ltd., Montreal

ROYAL BANK BLDG. MONTREAL, QUEBEC

Here's how to eliminate "Frozen Joints"





1. Use the oxy-acetylene flame to loosen mill scale, and drive out moisture from around the joint area.

2. Next wire-brush the area to remove the loose scale.

3. Then paint the area with a good lubricant.

Now, these clean joint areas—free of troublesome mill scale—will discourage joint bars from "freezing to the rail" and will require less maintenance.

This operation takes a little over a minute to do, and will fit right into your present rail-laying program. Ask Canadian Railroad Service for more information about how you can use flame-cleaning to prevent joint bars from freezing to rail ends when you lay new rails.



CANADIAN RAILROAD SERVICE COMPANY, LIMITED

350 Bay Street **Toronto 1, Ontario**

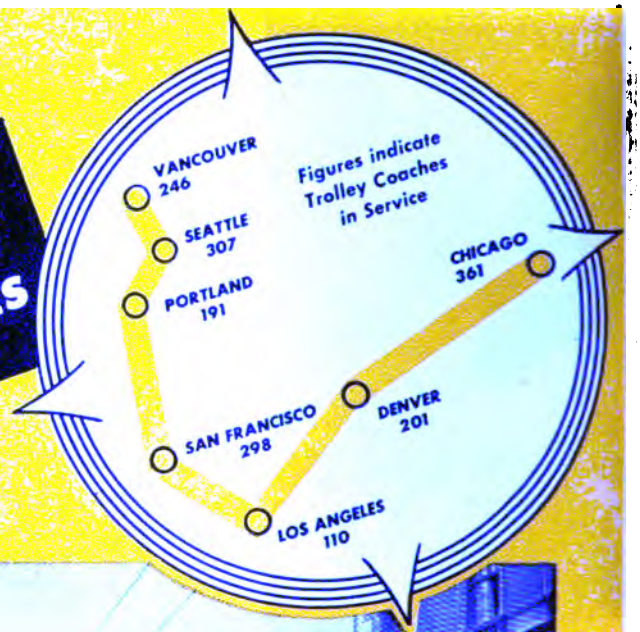
SINCE 1924—THE COMPLETE OXY-ACETYLENE SERVICE FOR CANADIAN RAILROADS

TROLLEY COACH

SUCCESS STORIES POUR IN...

FROM CHICAGO AND DENVER

FROM VANCOUVER AND LOS ANGELES



● Fighting congestion in Chicago... replacing streetcars in Denver and Portland... making profits in San Francisco ... bringing de luxe transportation to the residents of a huge Los Angeles housing project.

From Western cities, from cities on the way West, come these stories of trolley coach success—stories that many ATA members would have heard personally if the 1950 convention in Los Angeles had not been cancelled.

Heard personally or indirectly, however, the stories are equally impressive. The trolley coach has proved its ability to do an outstanding job, whether climbing the steep hills of Seattle and Vancouver, or maneuvering through the busy streets of Chicago and Los Angeles.

In every trolley coach success story, the basic theme is the same. Trolley coaches give the best service at the lowest cost. And the riding public prefers them. It's a story every transit man likes to hear.

4009-T



"De Luxe Transportation for Los Angeles"



TROLLEY COACH AND STREETCAR LINE MATERIAL AND CAR EQUIPMENT

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COMPANY, LTD.
Niagara Falls, Canada

AAR CERTIFICATE No. 1



THE *Symington** COMPOSITE ARTICULATED JOURNAL BOX LID

TESTED UNDER AAR SUPERVISION AND GRANTED AAR APPROVAL CERTIFICATE NO. 1

LIGHT WEIGHT • STURDY



LID . . . reinforced pressing, flanged on all four sides.



HOUSING . . . cast malleable iron with hinge pin bearing surfaces of large area.

POSITIVE SEAL

CENTER PRESSURE



Provides constant, equal pressure—on all four sides of the lid. Ball and socket joint between lid and housing makes lid self-adjusting. Full articulation regardless of hinge lug wear and tight joint are ensured.

EASY TO INSTALL

1. Place in horizontal position over hinge lug.
2. Insert pin.
3. Partially close lid until spring tension is greatest. Then remove hairpin and close lid all the way —lid is installed! Simple. Easy. Quick.



Manufactured in Canada

REDUCED WEAR

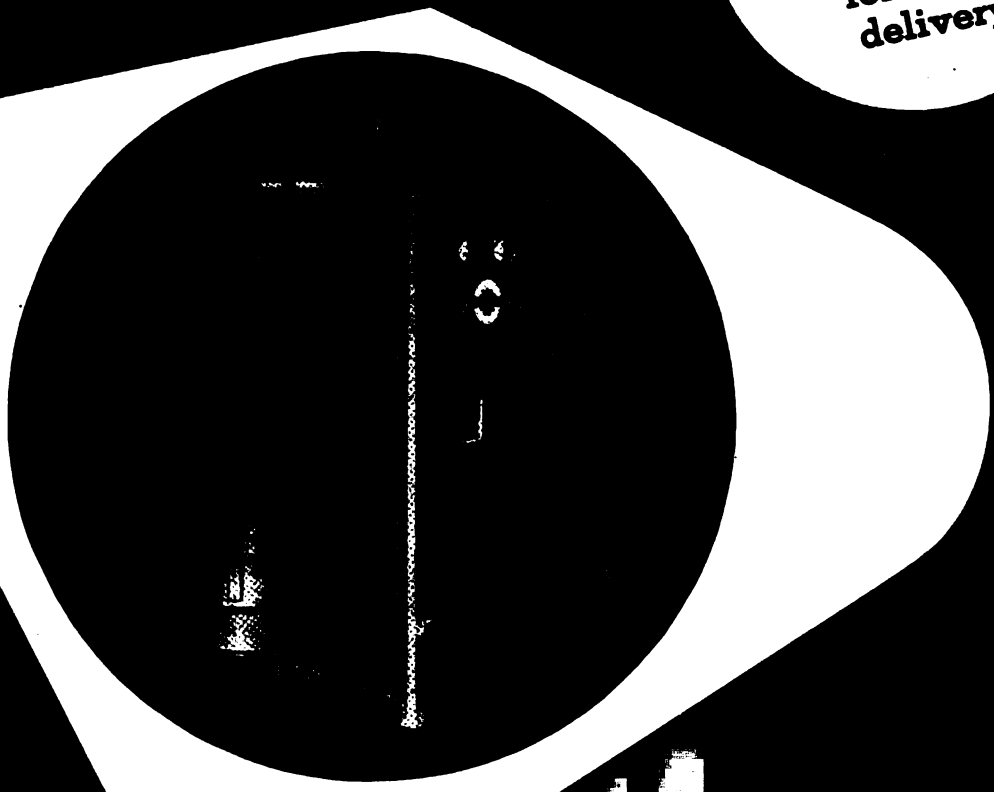
1. **HINGE LUG WEAR** *reduced* by equipping the torsion spring with a roller of adequate diameter and width which bears against the hinge lug.
2. **HOUSING WEAR** *decreased* by hinge pin bearing surfaces of large area.
3. **LID WEAR** *minimized* by light weight construction and adequate center pressure to insure tight fit and prevent vibration.



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974 ST. ANTOINE STREET -- MONTREAL

"After years of service will continue to maintain top capacity for steam delivery"



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it expedient to e
purpose locomotives v
Vapor Steam Generators
transportation service by d
at lower cost. Built into e
of experience and co
highest reliability and
Steam Generators
per pound of stea
to be the best bu

VAPOR "OK" CONTROLS
INTENSI-FLAME
VAPOR INTENSIFIED COMBUSTION

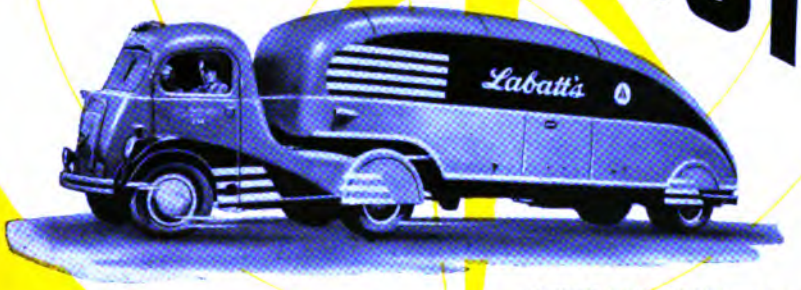
Lowest Initial Cost

VAPOR CAR HEATING CO. OF CANADA LIMITED

65 Dalhousie Street, Montreal



if it has to be Moved use ALUMINUM!





MORE PAYLOAD — that's the happy set-up you get in every form of transportation with lightweight aluminum. Afloat, ashore, or in the air, aluminum eliminates useless dead weight, cuts operating and maintenance expense, and widens profit margins.

Strong, durable, rustproof and corrosion resistant ... good looking aluminum is the ideal metal for every type of carrier.

For full information, write our nearest sales office.



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Producers and Processors of Aluminum for Canadian Industry and World Markets

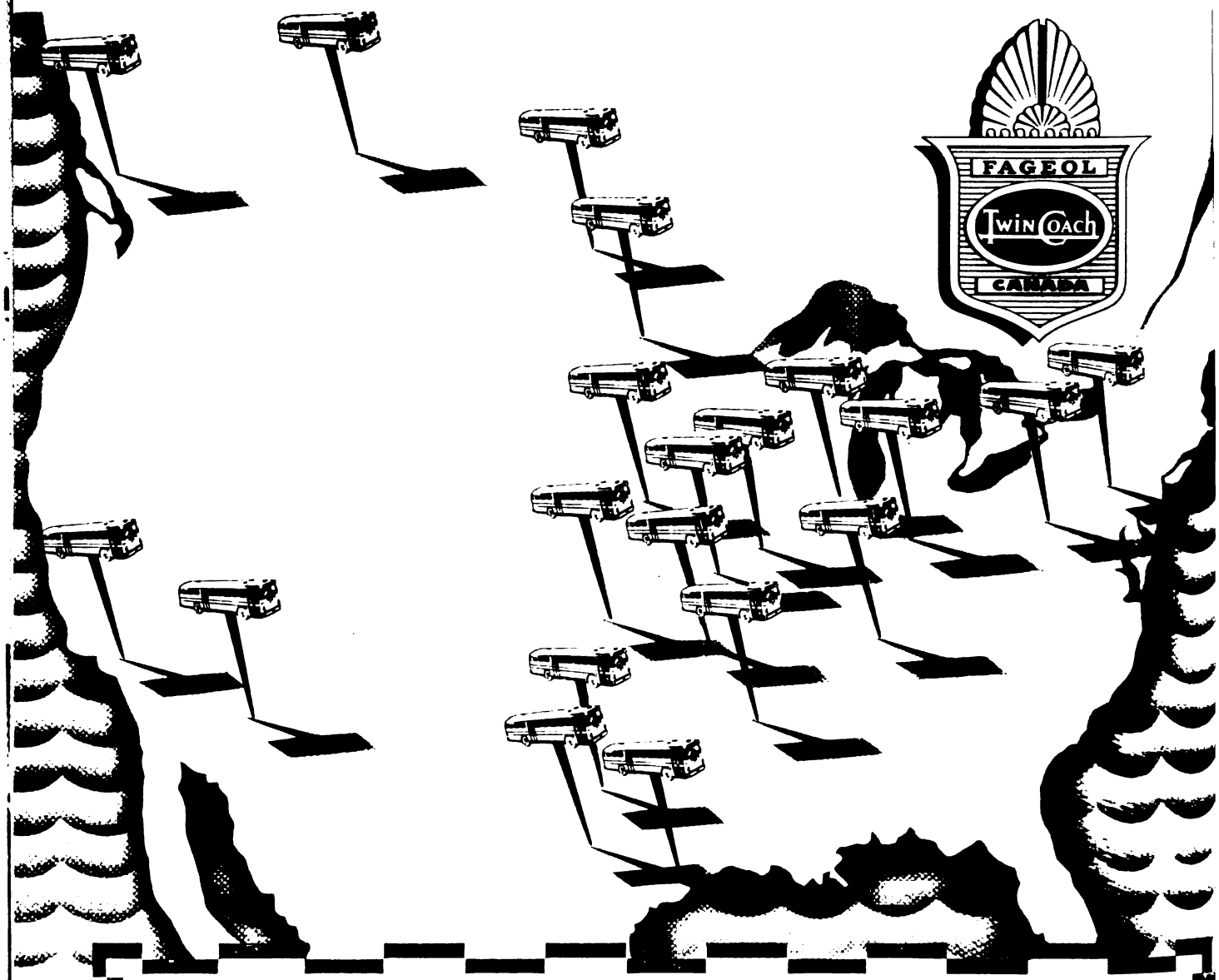
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20 leading transit properties

have new Propane-Powered Twin Coaches, or conversions, in operation or on order



TWIN COACH OF CANADA, LTD

200 MADISON AVENUE • TORONTO 5, ONTARIO

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Winnipeg, Manitoba

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6 Propane advantages!

1 **Fuel savings up to 2 cents per mile.**

2 **Reduction of maintenance expense to new minimum.**

3 **Up to 50% more mileage between engine overhauls.**

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6 **Stable fuel prices. As cost of gasoline and diesel fuel has gone up, price of Propane has come down (1940-1950). Huge surplus is guarantee that price will remain low.**

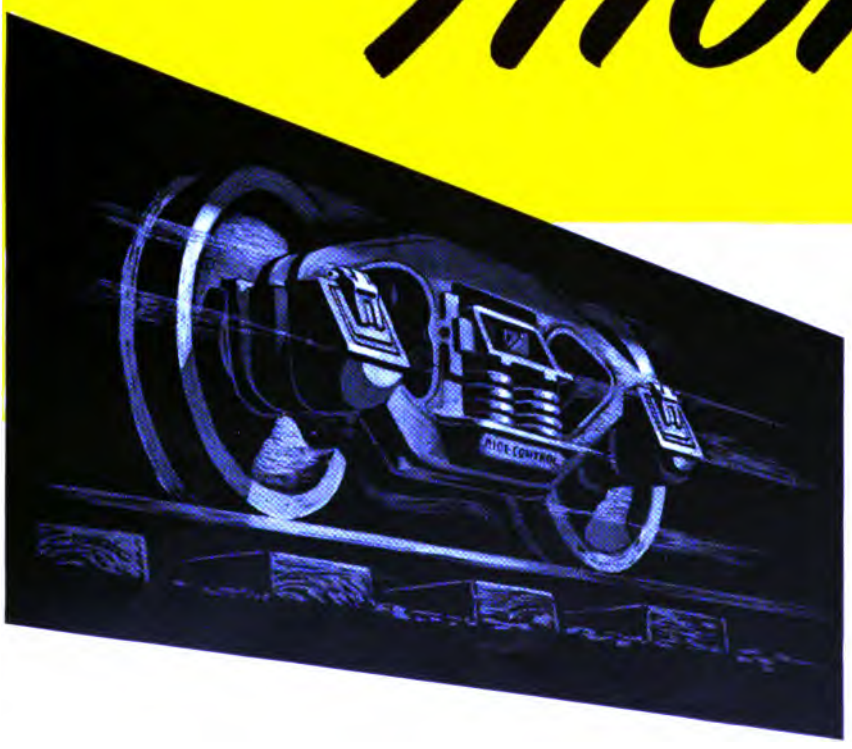
A-3438

We invite transit operators to find out the facts about Propane's advantages on their own properties. Propane-powered Twins are always available for demonstrations at your convenience.



THEY JUST KEEP

Rollin' Along!



Every minute of every day, A.S.F. Ride-Control Trucks are rolling to new records . . . saving money by smooth performance and trouble-free low maintenance.

A-S-F *Ride-Control*® TRUCK

CONSTANT FRICTION CONTROL
LONG SPRING TRAVEL

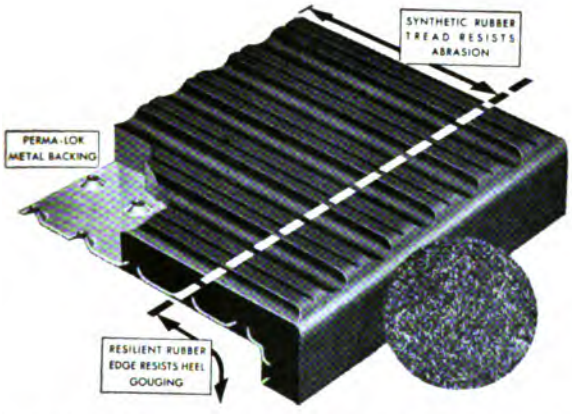
The RAILROAD HOUR
NBC Every Monday Night

INTERNATIONAL EQUIPMENT CO. LTD., MONTREAL

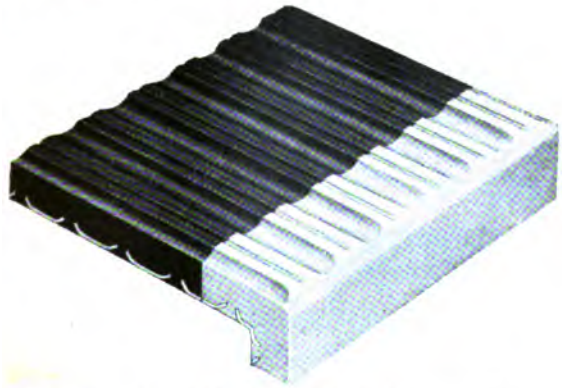
AMERICAN STEEL FOUNDRIES

Now a famous tread for a famous treadle





TWO-ZONE CONSTRUCTION is an exclusive feature of Rub-Bub Heavy-Duty Safety Step Plate. It increases flooring life, adds an extra margin of safety. Photomicrograph shows dense, fibrous texture of Rub-Bub compound that's never slippery *wet or dry*. Also available with detachable white safety step edge (below).



ALSO MADE IN CANADA TO THE SAME FINE STANDARDS

RUB-BUB Heavy-Duty Safety Step Plate now available on National Pneumatic treadles

THIS NEW FEATURE now available on National Pneumatic treadles helps prevent costly slips and falls... gives a firmer, surer footing because exclusive Dri-Foot design and "toothy" texture of *Rub-Bub compound *grip passenger shoes tighter wet or dry.*

And Rub-Bub safety flooring gives years of extra life! On not only treadles, but on platforms, steps and aisles, too, Rub-Bub flooring lasts and lasts. It's tough; it's extra thick; and abrasive dirt accumulates in deep grooves below contact surfaces.

Write for samples *today*. See for yourself why Rub-Bub safety flooring stays safer—*years longer!* Specify Rub-Bub safety flooring *by name* for platforms, aisles, steps and *treadles* in all your new or reconditioned vehicles.

A-3462

RUB-BUB
Transportation Products

SAMUEL MOORE & CO. MANTUA, OHIO

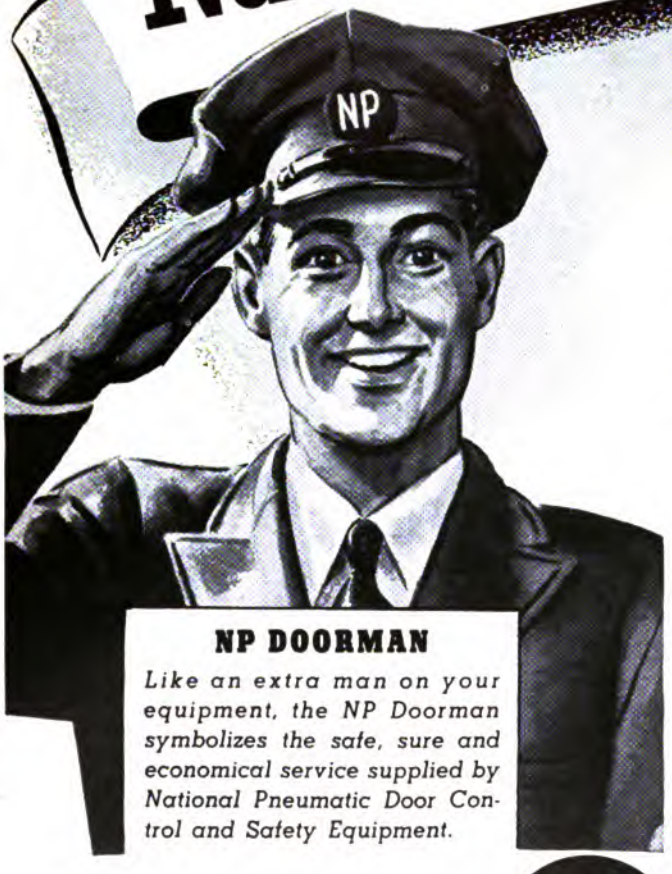
IN CANADA | SAMUEL MOORE & CO. OF CANADA, LTD.
Represented in Canada exclusively by
RAILWAY & POWER ENG. CORP.

*T.M. REG. U.S. PAT. OFF.

The Greatest Name

in DOOR CONTROL . . .

National Pneumatic



NP DOORMAN

Like an extra man on your equipment, the NP Doorman symbolizes the safe, sure and economical service supplied by National Pneumatic Door Control and Safety Equipment.

LEADERS . . . in every important advance in Door Operating Equipment

• For nearly fifty years, the famous NP trademark has been recognized as the emblem of leadership in the development and manufacture of transit door control and safety equipment. First in the field, and still unchallenged, National Pneumatic has pioneered every important advance in door-operating equipment, working closely with operators all over this country, and throughout the world. Today, on subway, elevated and surface lines — on buses, trolley buses or street cars — the preference for NP is even greater than ever before. Increased research and manufacturing facilities, combined with high standards of service, assure that National Pneumatic will continue to be—*the greatest name in door control.*

Be Sure . .
always specify

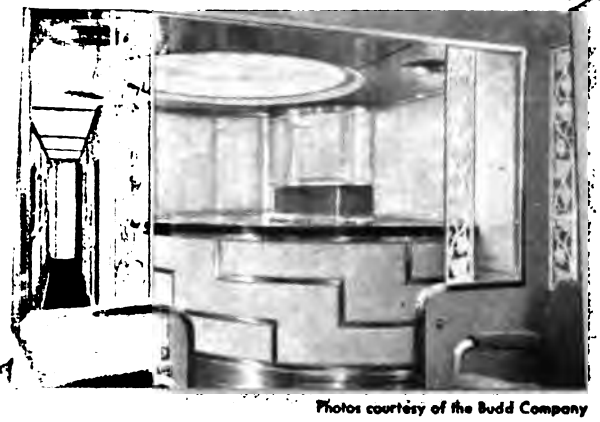
NP Door Control

REPRESENTED IN CANADA BY

RAILWAY & POWER ENGINEERING
NEW GLASGOW • MONTREAL • NORANDA • NORTH BAY
TORONTO • HAMILTON • WINDSOR • WINNIPEG
EDMONTON • VANCOUVER
Corporation Limited







Photos courtesy of the Budd Company

Jewel-like LUMINATOR Illumination on the Southern Pacific's New SUNSET LIMITED Trains

Small wonder that the public is awed by railroading's modern fleet of glistening streamlined trains. Nowhere is such luxury available at such small cost. In lighting the five new Sunset Limited Trains, Luminator applied the latest engineering advancements in fluorescence and incandescence with results that are exciting, yet pleasing to the eye. To the Budd Company, builders, and to the Southern Pacific Railroad, Luminator acknowledges vision and technical skill that has resulted in a real "wonderland on wheels."

LUMINATOR INC.

SALES REPRESENTATIVES

LIGHTING ENGINEERS
DESIGNERS
MANUFACTURERS

RAILWAY & POWER ENGINEERING *Corporation Limited*
NEW GLASGOW • MONTREAL • NORANDA • NORTH BAY
TORONTO • HAMILTON • WINDSOR • WINNIPEG
EDMONTON • VANCOUVER

It's Here! THE "WILSON" MOVABLE VAN and TRUCK WASHER



THIS IS IT

A VERY SUCCESSFUL DEVELOPMENT BY THE ROSS AND WHITE COMPANY.

This photograph shows a very large van used by A. Brandwein & Company, Chicago.

Our washer is mounted on an industrial lift truck, likewise powered so that the "Wilson" Washer in operation doesn't have to drag around an electric cable as no electric motors are used. Operated by Wisconsin gasoline engine with fluid drive, rotating 18" diameter Fuller brushes. The "Wilson" will wash all four sides of a large 30' long trailer in 1½ to 2 minutes and do a better job than can be done by hand. Will wash the dirtiest part of a van which is the rear and that cannot be done with any stationary side washer. It usually requires one man when washing by hand 8 hours to wash 10 average size trailers.

If properly lined up, we could wash these 10 trailers in 30 minutes and the operator never gets wet from the operation. It is possible to wash 8 or 10 trailers with one tank supply of water that is on the washer.

This machine is a great labor saver. In addition it will keep your trailers clean and more attractive in appearance than they have heretofore been.

MANUFACTURED EXCLUSIVELY BY

ROSS AND WHITE COMPANY

CHICAGO DAILY NEWS BUILDING, CHICAGO

DISTRIBUTED IN CANADA BY

RAILWAY & POWER ENGINEERING Corporation Limited
NEW GLASGOW · MONTREAL · NORANDA · NORTH BAY
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View of one of 200 refrigerator cars recently delivered to the Canadian Pacific Railway Company.

still another example

of National Steel Car production

National Steel Car Corporation has been privileged to play a large part in many important developments in the design and construction of railway rolling stock, and now its wide experience, advanced mechanical equipment and plant facilities, engineering and structural skill, its extensive production capacity and skilled workmen — enable it to offer much to the buyer of railway equipment.

The opportunity is always welcomed of placing definite recommendations, estimates and specifications before those interested in modern steel rolling stock and allied products.

NATIONAL STEEL CAR

HEAD OFFICE: HAMILTON, ONTARIO *Corporation Limited* SALES OFFICE: MONTREAL, QUEBEC

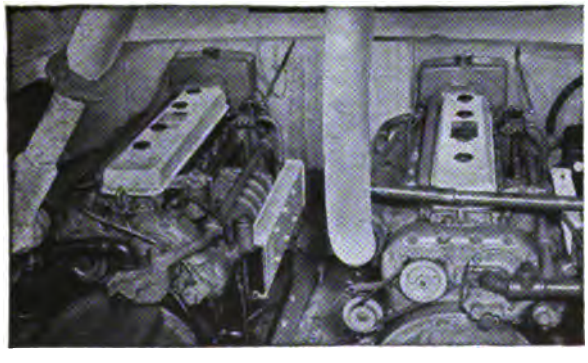
BUILDERS OF TRANSPORT FOR CANADA

"Takes a good boat to keep up with her"



YOU ought to hear Capt. O. W. Owens talk about the "Donna Raye." He will tell you she shows her heels to most boats in the area, that she maintains a timetable schedule regardless of weather or load.

Serving 2 tenders and 2 dredges on 35-mile daily trips, she carries an average of 14 men per trip—has carried as many as 22 men and 3000 pounds of supplies.



A matched pair of 6-cylinder General Motors Series 71 Diesels, snugly tucked away in her engine room, gives "Donna Raye" a cruising speed of 16 m.p.h., a top speed of 19.

What makes GM Diesels so dependable? First, of course, is sound design and precision manufacture. Unit injectors pump, meter and inject the fuel, and are as easy to replace as spark plugs. Efficient scavenging makes these Diesels clean-burning and economical. Interchangeability of parts provides maximum availability —helps keep them on the job.

All this explains why more and more boat-owners are switching to GM Marine Diesels. Facts that demonstrate their economy are yours for the asking. See your distributor listed below.

DIESEL ENGINE DIVISION

GENERAL MOTORS PRODUCTS OF CANADA LTD.

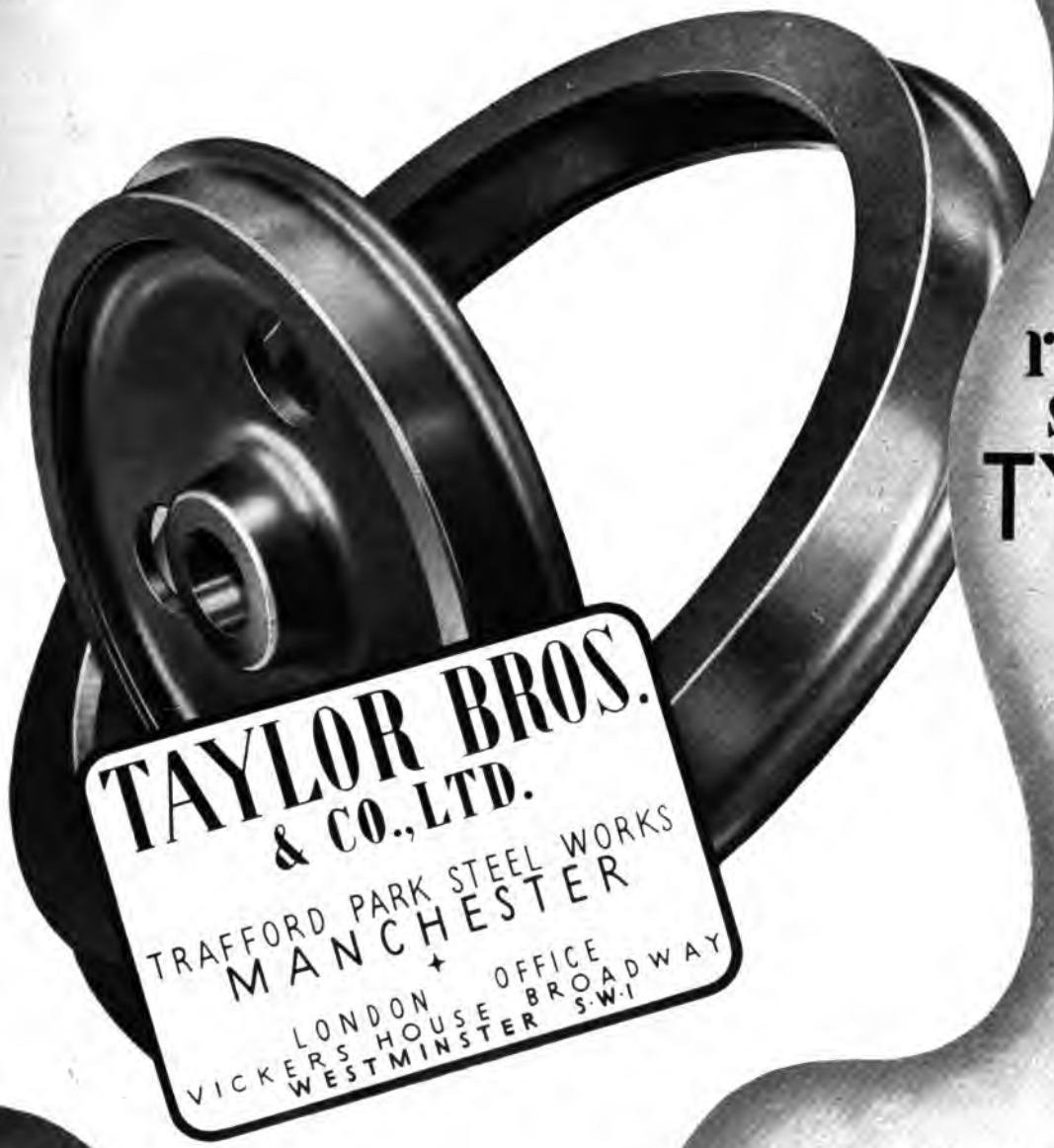
OSHAWA, ONT.

DIESEL BRAWN WITHOUT THE BULK

GM GENERAL MOTORS DIESEL POWER

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Goodspeed-Millard Appliances Ltd., 468 Prince St. TRURO, N.S.
Logue Industrial Equipment Ltd. SYDNEY, N.S.
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SOLID forged & rolled steel WHEELS



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Five Points
FOR CHILLED TREAD WHEELS

ROTUNDITY *test*



CHILLED TREAD WHEELS are tested to .025 inches for rotundity. And note, the A.A.R. limits are .031 . . . This exceeding carefulness in rotundity limits is paralleled in all other phases of railway wheel production. The "five points for chilled wheels" (noted at right) are the standards through which we have won our reputation for railway wheels.

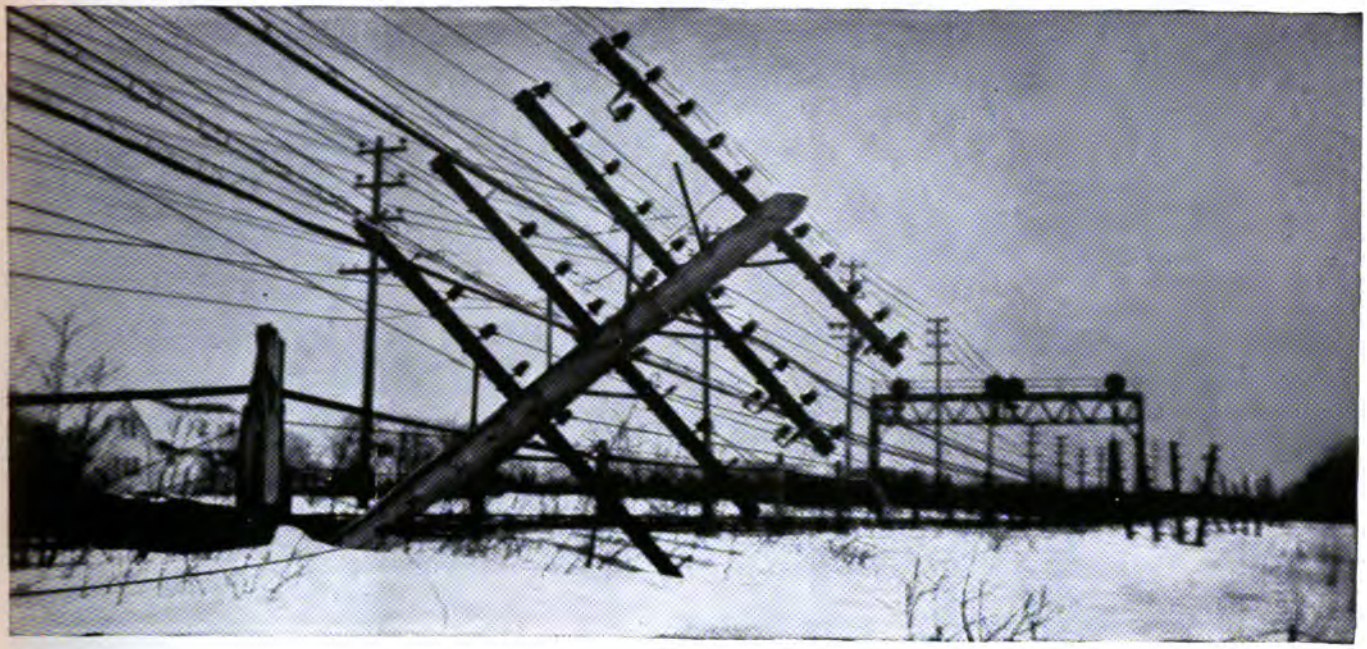




Chilled Tread Wheels are Manufactured in Canada by

CANADA IRON FOUNDRIES LIMITED
CANADIAN CAR & FOUNDRY CO. LIMITED
DOMINION WHEEL & FOUNDRIES LIMITED

To help "winterproof" your signal circuits • • •



GENERAL ELECTRIC

RAILWAY LINE WIRE

CUTS ICE LOADING— CUTS MAINTENANCE!

SMALLER DIAMETER TELLS THE STORY!



Type FF line wire has an average over-all diameter 40 per cent less than conventional types of railway line wire. That means less surface for ice and sleet formation, less resistance to high winds, less maintenance required!

Your line maintenance costs can be cut several ways with G.E.'s new Type FF railway line wire. Smaller in diameter than other types, it reduces ice, sleet and wind loading, helps prevent costly outages and service interruptions due to storms. The film has high dielectric strength plus a smooth finish which does not readily support icing. And high resistance to abrasion and heat aging, sunlight and moisture helps insure long life.

Installation costs are lower, too. The smaller diameter and smooth, hard finish of Type FF line wire make handling by your signal construction crews easier, installation faster. Moreover, this improved line wire weighs far less than ordinary types, gives you as much as 34 per cent more feet per pound. That means a big saving in first cost, plus additional savings made possible by use of longer spans with fewer poles and insulators.

You can get Type FF line wire in sizes from No. 10 to 6 AWG, hard-drawn copper, or No. 12 to 8 AWG, copperweld conductors. For more data, check with your nearest C-G-E office.

SOMETHING ENTIRELY NEW IN LINE WIRE DESIGN!



CANADIAN GENERAL ELECTRIC CO LTD

HEAD OFFICE: TORONTO—Sales Offices from Coast to Coast

49-JA-7



BRINE TANKS AND MEAT HOOKS FOR REFRIGERATOR CARS

Monel* offers many advantages for brine tanks and meat hooks in railway refrigerator cars. Strong and tough, Monel is a solid stain-resisting metal. Its use for brine tanks insures maximum protection against the corrosive action of the salt, ice and brine with which it is in contact. Easily welded, the joints are as corrosion-resistant as the parent metal. This combination of properties assures uninterrupted service and reduces the cost of maintenance.

Cheaper in the long run

To-day, manufacturers and users of a wide variety of equipment regard Monel as sound investment. Case histories prove conclusively that the ultimate cost of this nickel alloy is surprisingly low.

*Trade Mark

EMBLEM OF INCO SERVICE
MONEL

All types of vessels can be handled at CANADIAN SHIPBUILDING AND ENGINEERING YARDS



Port Arthur Shipbuilding Co. Ltd., one of the Company's four Ontario shipyards

THE CONSTRUCTION of the country's largest oil tanker, cargo vessel or passenger steamer, down to the smallest craft . . . the rebuilding, repairing or repainting of any make of boat . . . all are jobs successfully handled at the Canadian Shipbuilding and Engineering shipyards. With a century of shipbuilding experience behind them, these centres are fully equipped to offer stout workmanship at economical rates.

The Company is proud of its record of production—not only for the size and types of ships launched from the four yards but also for the speed with which their contracts have been completed. A record was set by the Collingwood centre only last year, when the S.S. NORGOMA, laid down on October 31st, was launched on December 22nd, with an interval of merely 40½ working days.

Canadian Shipbuilding and Engineering is the parent company for four of the five Canadian shipbuilding and repair yards controlled by Canada Steamship Lines, the world's largest inland water transportation company.

All enquiries promptly acknowledged and information supplied on request.



CANADIAN SHIPBUILDING AND ENGINEERING COMPANY LIMITED

COLLINGWOOD · KINGSTON · PORT ARTHUR · MIDLAND

Shipbuilding subsidiary of

CANADA STEAMSHIP LINES LIMITED

759 VICTORIA SQUARE, MONTREAL P.Q.



Here comes Tomorrow!

Take a good look at this locomotive! You'll be seeing more like it. It's the Consolidation, the world's newest and finest, featuring the renowned Fairbanks-Morse Opposed Piston Diesel Engine . . . now being built in Canada in the Kingston shops of the Canadian Locomotive Company Limited. With a spectacular record of successful U.S. operation already established, Consolidation Diesel Locomotives offer Canadian operators more horsepower in shorter length, smoother performance through all speed ranges, outstanding versatility, unequalled ease of maintenance.

The Canadian Locomotive Company is proud to begin its second century of service to Canadian railroads with the introduction of the Consolidation Diesel . . . a name worth remembering!

The new Consolidation Diesel is shown in demonstration passenger service for the Canadian National Railways between Toronto and Montreal.

cLc

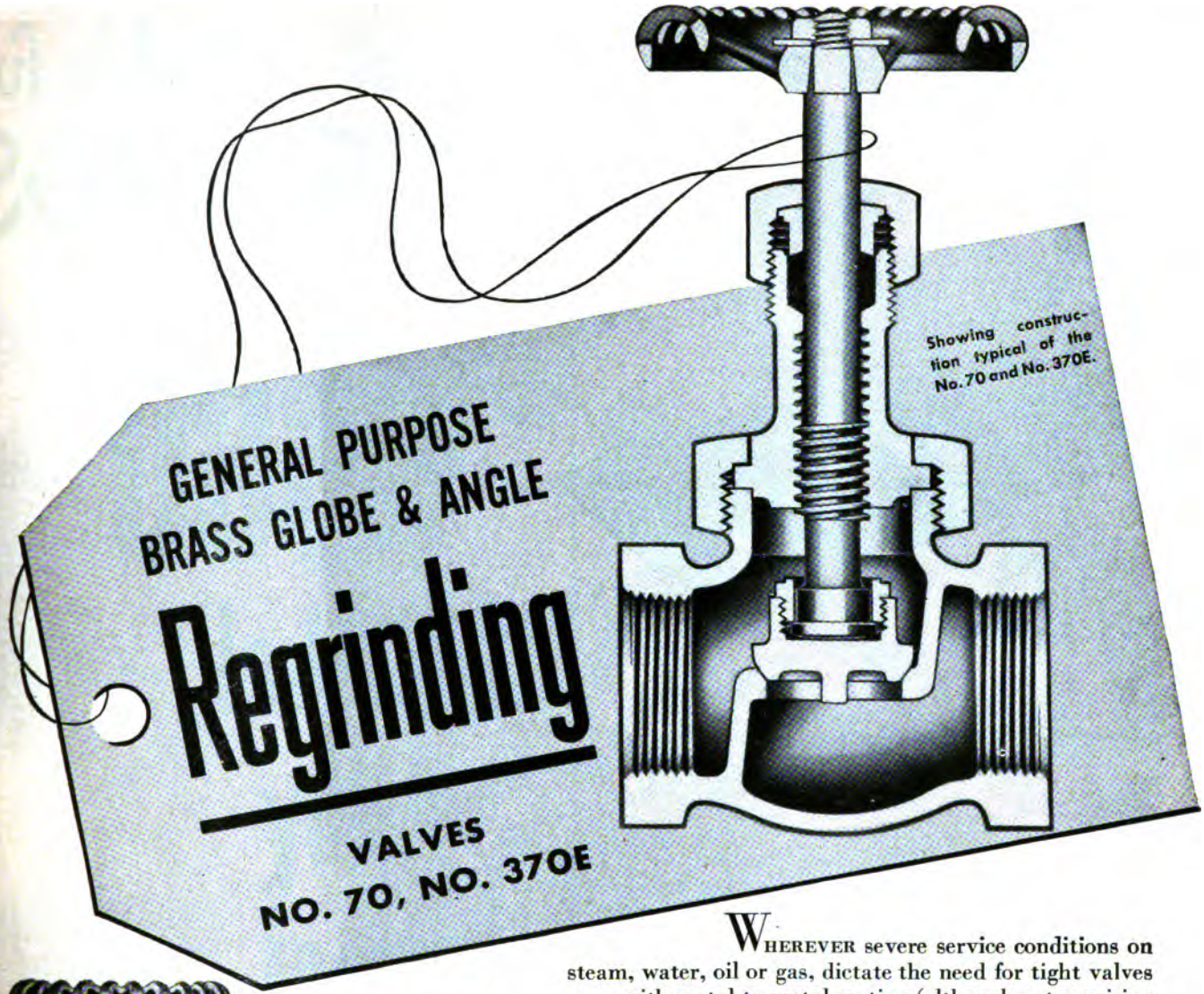
Canadian Locomotive Company Limited

85 RICHMOND ST. W. TORONTO

980 ST. ANTOINE STREET MONTREAL

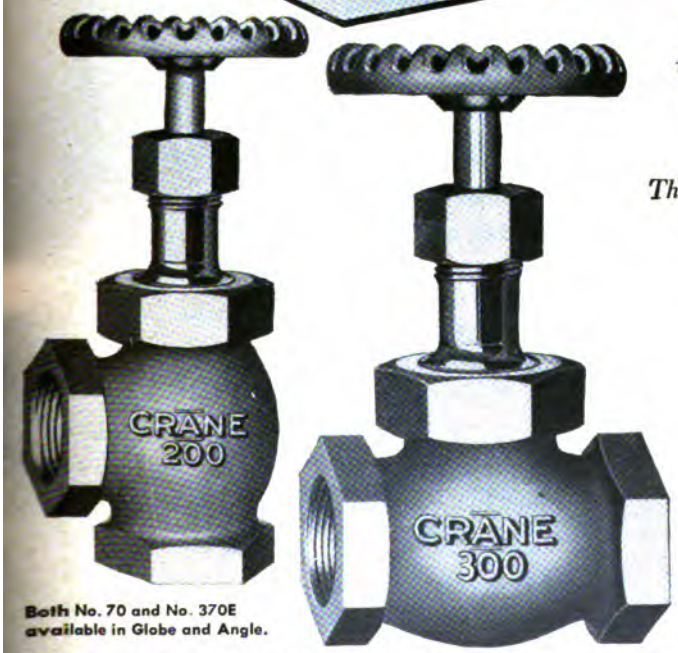
KINGSTON ONTARIO

1850 1950



Showing construction typical of the No. 70 and No. 370E.

GENERAL PURPOSE BRASS GLOBE & ANGLE Regrinding VALVES NO. 70, NO. 370E



Both No. 70 and No. 370E available in Globe and Angle.

WHEREVER severe service conditions on steam, water, oil or gas, dictate the need for tight valves with metal-to-metal seating (although not requiring the more specialized plug-type disc used on exceptionally severe throttling, blow-down and similar service)—the Crane Nos. 70 and 370E "regrinding" valves are in popular demand, particularly in the marine field.

They can be reground without removing the body from the line. Union bonnet ring reinforces the bonnet joint, facilitates dismantling and reassembling. When a valve is being reground, the ring centres and guides the valve trim.

Working Pressures (Screwed Valves):

No. 70—200 lbs. steam at 500°F.; 400 lbs. W.O.G., non-shock. No. 370E—300 lbs. steam at 550°F.; 600 lbs. W.O.G., non-shock.

The disc in sizes ⅛" to ½" is integral with the stem. In larger sizes, the disc swivels on the stem, as shown in the cross-section.

Stuffing boxes are deep, equipped with a gland, and filled with high grade packing. These valves, when wide open, can be repacked under pressure.

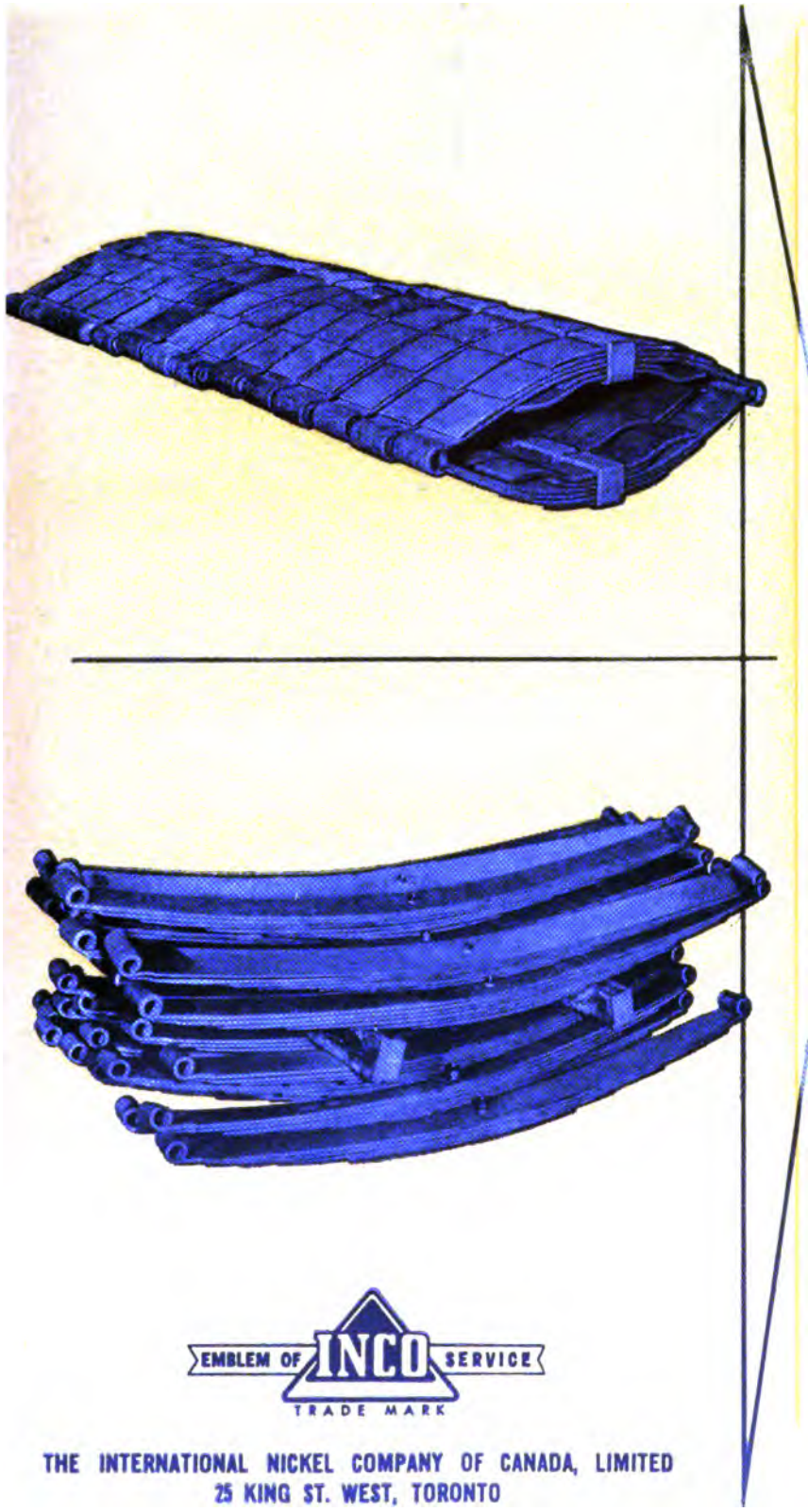
CRANE LIMITED: GENERAL OFFICE: 1170 BEAVER HALL SQUARE, MONTREAL • 18 BRANCHES IN 10 CANADIAN PROVINCES

1-9096

CRANE VALVES • FITTINGS • PIPING PLUMBING • HEATING

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS and PLUMBING AND HEATING CONTRACTORS

there's a better material available for SPRINGS

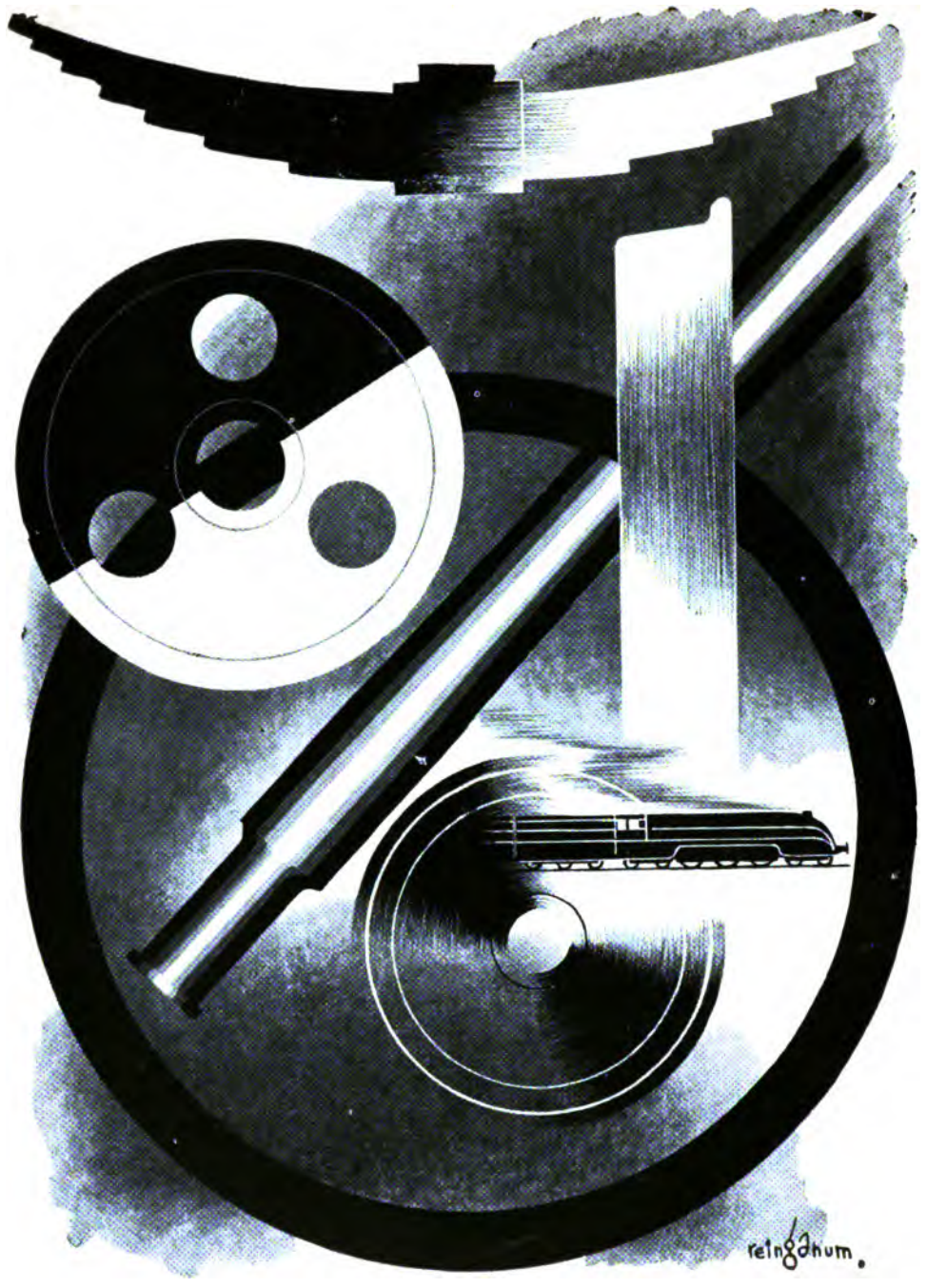


"8660" Nickel Alloy Steel

Both leaf type and hot coiled springs for heavy duty work are better when made from "8660" nickel-chromium-molybdenum alloy steel. High elastic properties, resistance to permanent set, resistance to shock at both normal and sub-zero temperatures, through hardening characteristics, good fatigue strength, decarburization, cleanliness are s qualities of "86 be used f... ... and sim.... it will pay ,... "8660" Nickel Al.. for a copy of "Ni.. in Railway E..

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THE INTERNATIONAL NICKEL COMPANY OF CANADA, LIMITED
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RAILWAY MATERIALS

From the Steel, Peech & Tozer mills emerges a constant stream of railway tyres, wheel discs and solid wheels, for destinations all over the world. Wherever railways run, these products are everywhere proving their reliability.

Additionally the forges produce carriage and wagon axles, locomotive axles, straight and cranked, etc. An associated works specialises in finished wheel and axle sets. Laminated and other railway springs are also produced.

STEEL, PEECH (CANADA) LIMITED

2228 WALKLEY AVENUE - MONTREAL 28 - QUEBEC - *Telephone:* Walnut 8146

THE UNITED STEEL COMPANIES LTD

PARENT COMPANY

THE UNITED STEEL COMPANIES LIMITED OF SHEFFIELD, ENGLAND

The largest Steel producers in the British Commonwealth

Resists corrosion...





Withstands vibration...

Saves on installation...



...3 good reasons why TRANSITE PIPE cuts railroad water-line costs to the bone!

HERE'S WHY many of the country's leading railroads have invested in Transite* Pressure Pipe as the key to *long term* water-line economy:

Resists corrosive soils—Transite Pipe is made of asbestos and cement, steam-cured under pressure to give it exceptional corrosion-resistance. That's why this pipe stays strong, even when exposed to such highly corrosive soils as cinder fills, salt marshes and other acid or alkaline soil conditions.

Withstands traffic shocks, earth movements—Transite's Simplex Couplings make up tight, stay tight in service. And because these joints are flexible, they absorb the shock and vibration of train traffic, help compensate for soil movements and other stresses—providing a constant safeguard against leakage of water into adjacent soil and protecting against costly pipe failures.

Saves on installation, gives long service—Pipe-laying crews can lay more pipe per day with Transite because it is light in weight, easy to handle, and because the simple coupling method used speeds up assembly, saves time on the job. And these initial installation economies are followed by long-term economies in both operation and maintenance that help assure lower water-line costs over the years.

For further information about Transite Pipe, write for Brochure TR-11A. Just address Johns-Manville, 199 Bay St., Toronto 1, Ont.

*Transite is a Johns-Manville registered trade mark

T-250

Johns-Manville 92 YEARS OF SERVICE TO TRANSPORTATION

THE HOLDEN CO., LIMITED

MONTREAL

are pleased to announce that they have been appointed Exclusive Sales Representatives of the

Power Ballaster Division
Pullman-Standard Car Manufacturing Co., Chicago, Ill.,

to handle the sale in Canada of the Pullman-Standard

Power Track Cribber,
Ballast Cleaner
and Power Track Ballaster.

Literature and price information will be furnished on request.

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614 St. James St. W., Montreal 3, P.Q.

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CLEANER ENGINES -LOWER COSTS ...when you use TEXACO D-303 MOTOR OIL



Cleaner engines because Texaco D-303 Motor Oil is fully detergent and dispersive. It keeps engines free of deposit formations, varnish and tarry sludge . . . assures cleaner screens and oil lines and filters. In addition, *Texaco D-303 Motor Oil* protects bearings against corrosion, and all lubricated parts against rust.

Lower costs because Texaco D-303 Motor Oil keeps rings free, assures proper valve action, protects against scuffing and wear. **This oxidation-resistant oil adds thousands of extra operating miles to bearings, rings, pistons, and cylinders . . . extends time between overhauls . . . reduces fuel consumption.**

Assure lower costs for chassis maintenance, too. Lubricate with *Texaco Marfak.* It won't jolt or squeeze out of the bearings . . . resists wash-out . . . protects against rust and wear. In wheel bearings, use *Texaco Marfak Heavy Duty.* No seasonal change is required.

Don't overlook the importance of effective lubrication in reducing fleet operating costs. Let a McColl-Frontenac Lubrication Engineer give you all the facts. Just call the nearest of more than 200 McColl-Frontenac Distributing Bulk Stations across Canada, or write McColl-Frontenac Oil Company Limited, Executive Offices, Royal Bank Building, Montreal, Quebec.

McColl-Frontenac Oil Company Limited

Manufacturers and Distributors in Canada of Texaco Petroleum Products

T-20

TEXACO Lubricants and Fuels FOR THE TRUCKING INDUSTRY

HIGH AVAILABILITY

By the very nature of their design, General Motors locomotives need less time out for maintenance. But here is another important factor back of the HIGH AVAILABILITY of every General Motors Diesel Locomotive—the HIGH AVAILABILITY of G.M.D. parts. Protection parts are already available at the London plant of General Motors Diesel. These parts, readily interchangeable, combine with the basic design and efficiency of the General Motors Diesel Locomotive to assure HIGH AVAILABILITY.

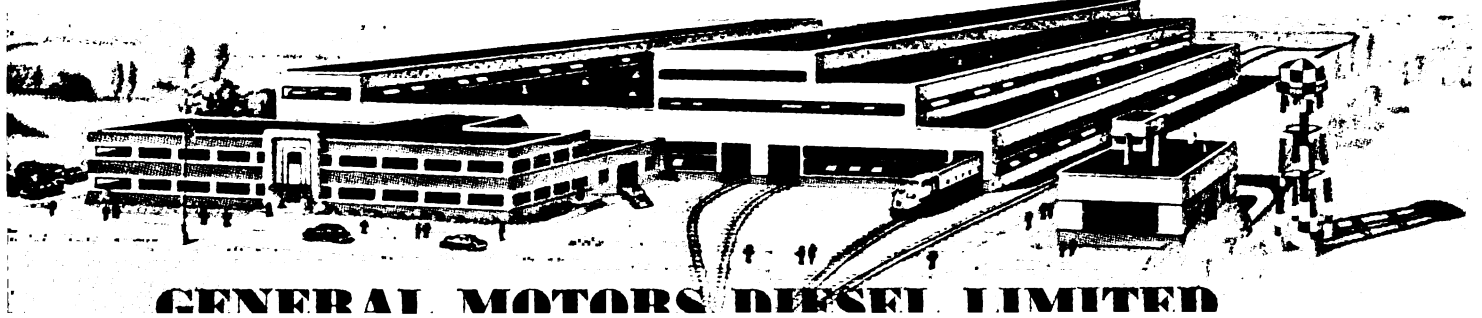


Lift-trucks and up-to-date mechanized equipment permit modern palletized handling methods, replacing the time-consuming, back-breaking operation of yesterday. Clear identification of parts likewise speeds both incoming and outgoing material to its destination.



These rows of steel bins in the Parts Center at the London plant are capable of housing the many thousand different items. Modern packaging of many parts protects against rust, dirt, damage in handling, makes identification sure and simple.

GENERAL MOTORS LOCOMOTIVES



GENERAL MOTORS DIESEL LIMITED

GENERAL MOTORS
LOCOMOTIVES

GENERAL MOTORS LOCOMOTIVES

are constructed from one hundred per cent General Motors design and are built under a SINGLE responsibility. All major components of the locomotive are serviced completely by ONE organization.

Canada's Outstanding

PREVOST COACH

CUSTOM BUILT
BY MASTER CRAFTSMEN



INTERURBAN — 41-PASSENGER

PROGRESSIVE IN DESIGN
RELIABLE IN WORKMANSHIP
EFFICIENT IN PERFORMANCE
VIEING IN PRICE, QUALITY AND SERVICE
OUTSTANDING APPEARANCE
STURDILY BUILT, COMFORTABLE TO RIDE
THOROUGH CRAFTSMANSHIP

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OPERATORS
ACCLAIM OUR
CANADIAN COACH for
HIGHWAY COMFORT

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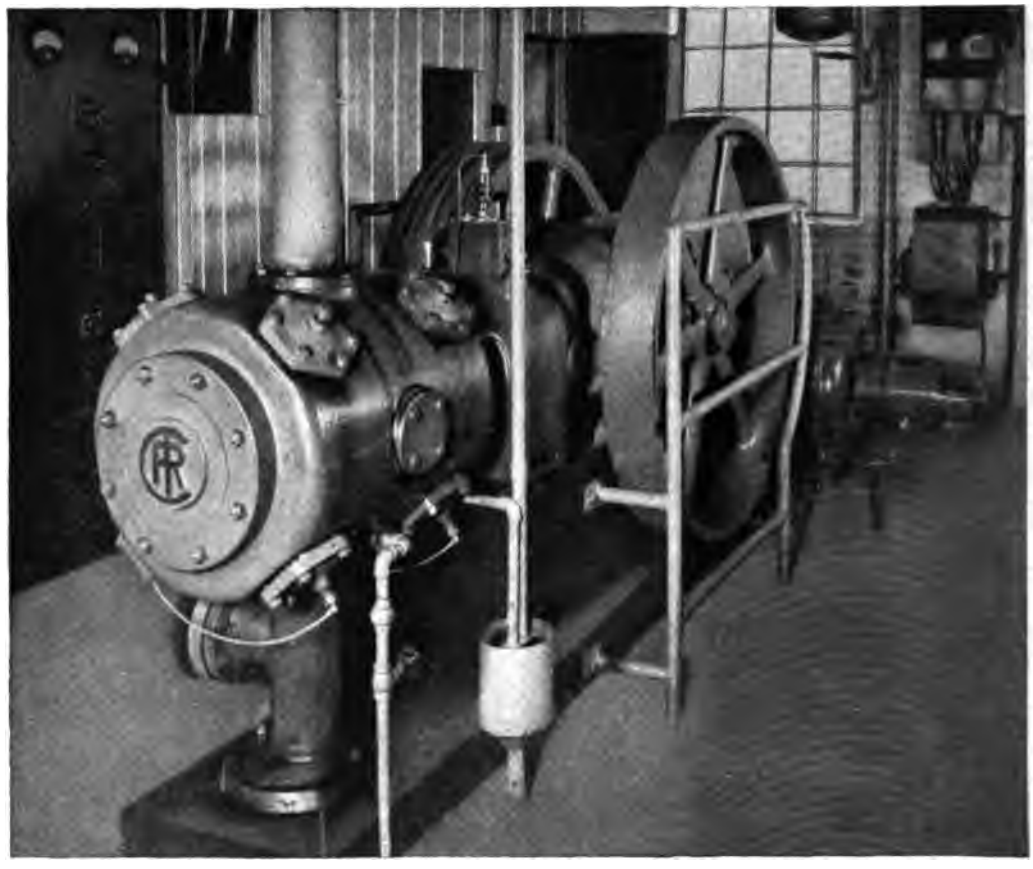
Quebec Division—ALBERT LACOMBE, 160 11th Ave., Lachine, Montreal, Que.

PREVOST COACH COMPANY

MANUFACTURERS

SAINTE CLAIRE **DORCHESTER COUNTY, QUE.**

Generating AIR POWER



WITH "ES" *Heavy Duty* COMPRESSORS

- Sizes 5 to 125 hp.
- Liberal valving with Channel Valves.
- Free-air unloaders on each inlet valve.
- Thorough water-jacketing around all valves.
- Completely accessible, oil-tight frame.
- Double-row Timken main bearings.
- Constant-speed control; or dual control, permitting either constant-speed or automatic-start-and-stop.
- Pressures 5 to 150 psi single stage.
- Also to 500 psi two-stage; 2500 psi three-stage.
- V-belt, flat-belt, or drive by synchronous motor mounted on crankshaft. Also steam drive with steam cylinder between air cylinder and frame.

WHEN you require a compressor that has the stamina to generate Air Power continuously at full capacity, 24 hours a day, week after week . . . specify a Canadian Ingersoll-Rand Class "ES."

This heavy-duty compressor is designed, built, tested, and rated for severe service throughout many years. In addition, it is the most efficient trouble-free single-stage compressor available and will save you hundreds of dollars in power and maintenance charges during its lifetime.

When you have any problems concerning Air Power . . . its generation, its distribution, or its thousands of labor-aiding uses . . . call on Canadian Ingersoll-Rand.

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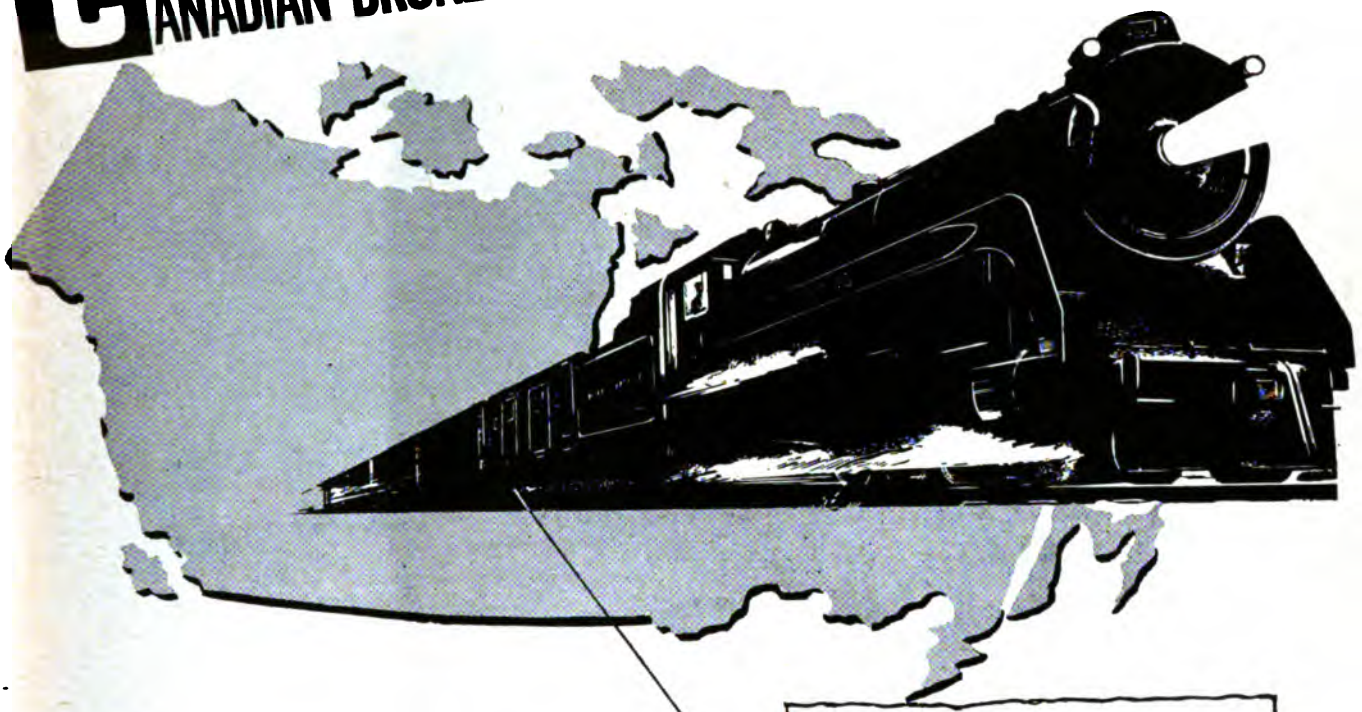
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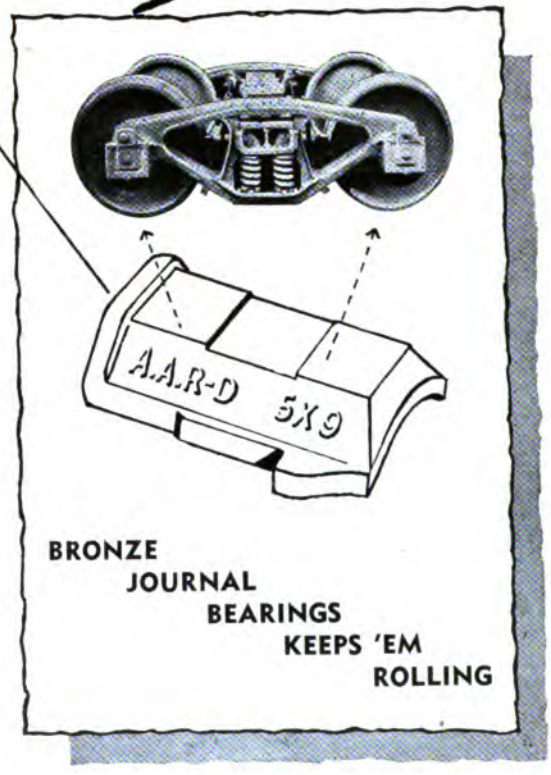


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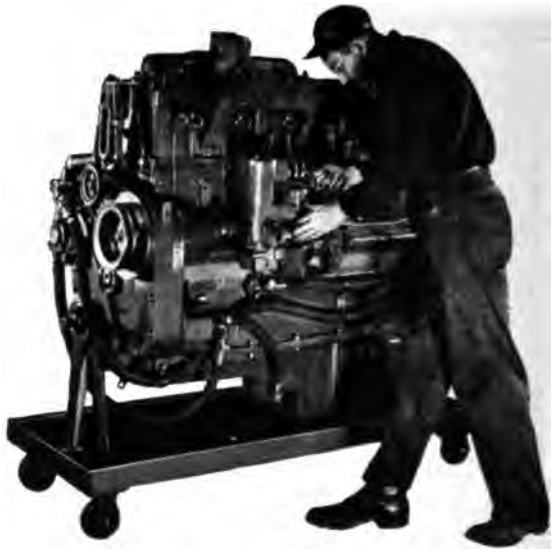
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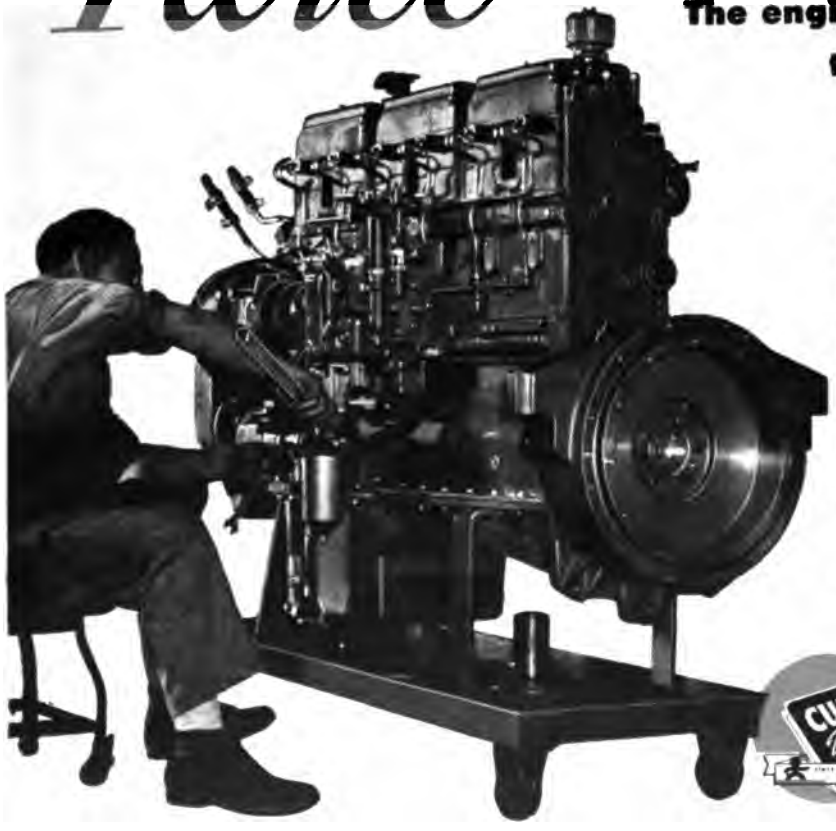
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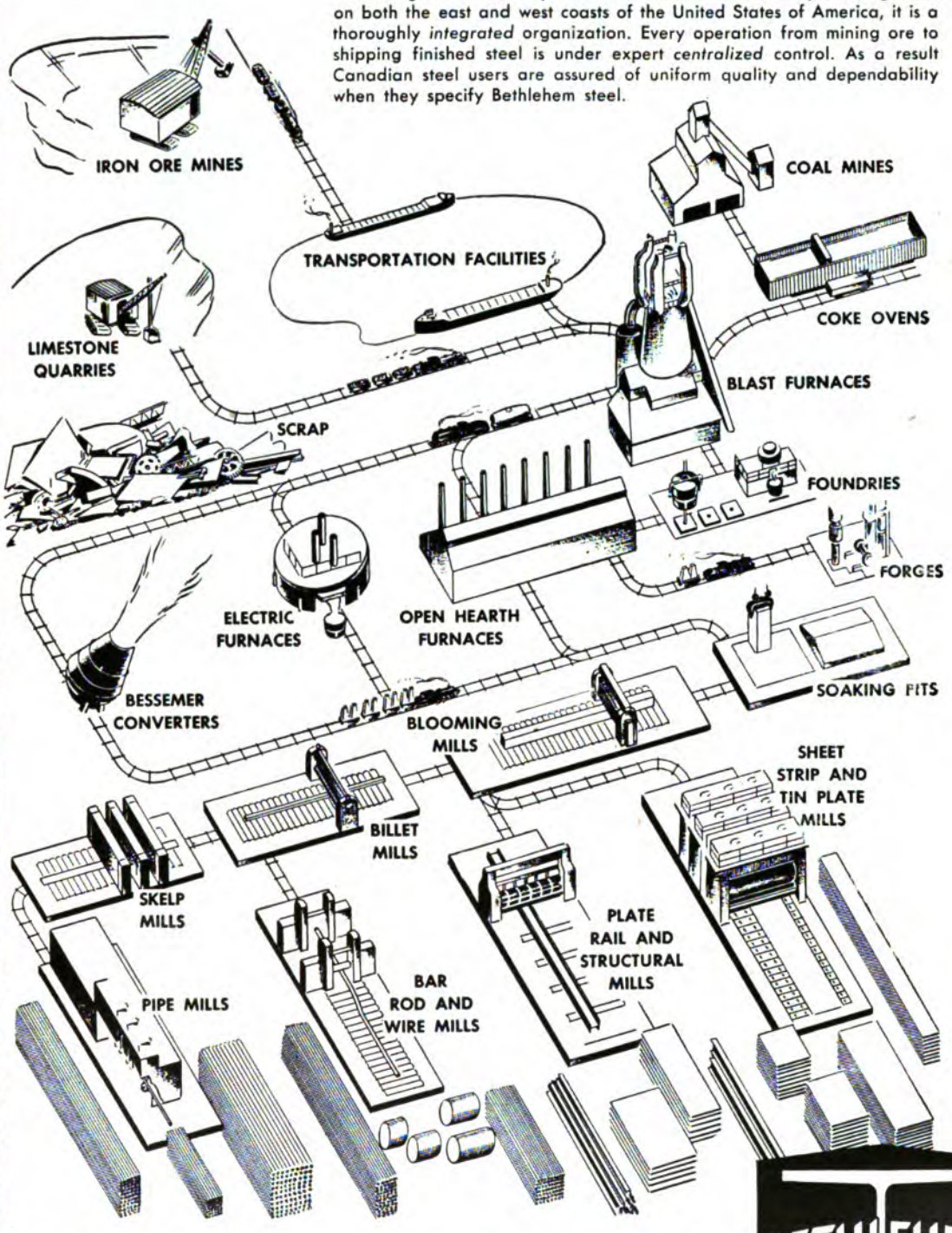
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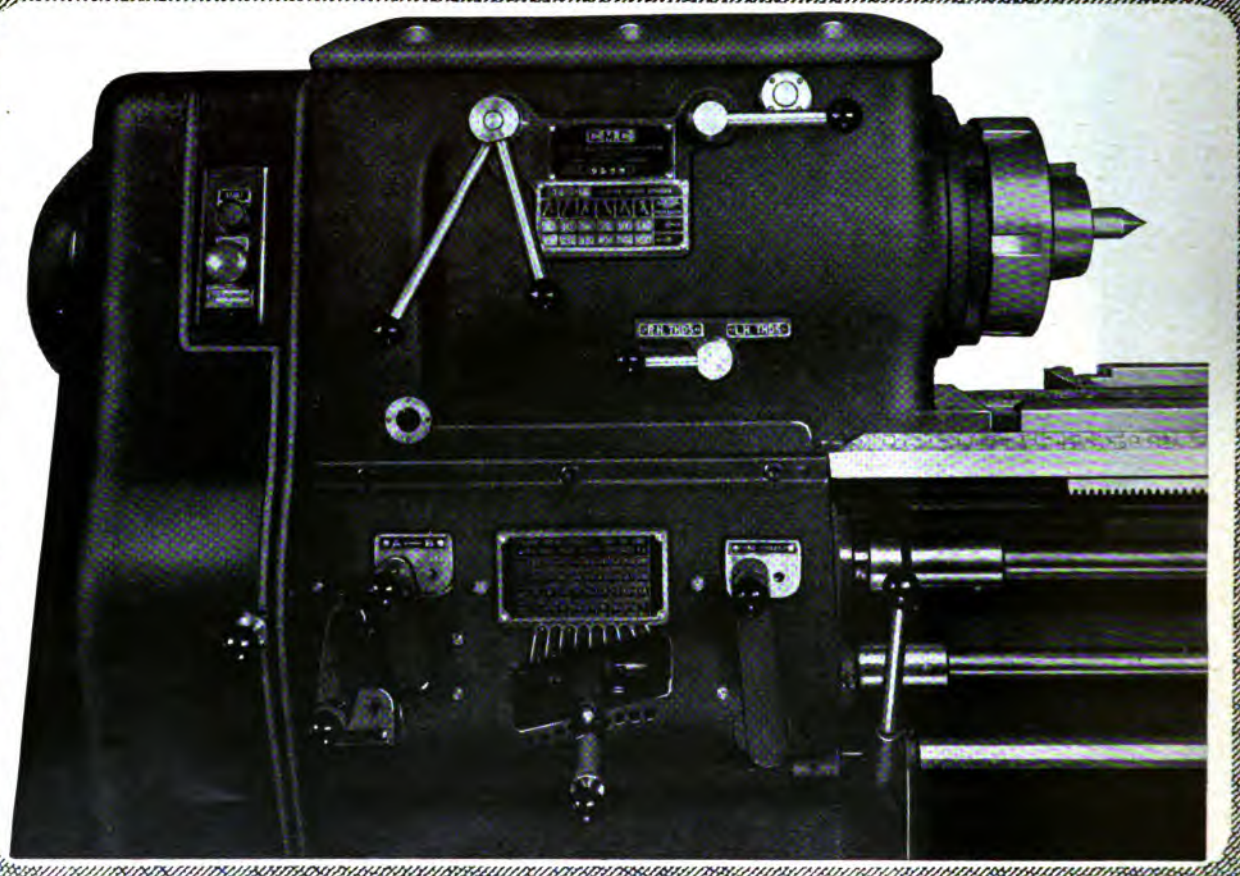
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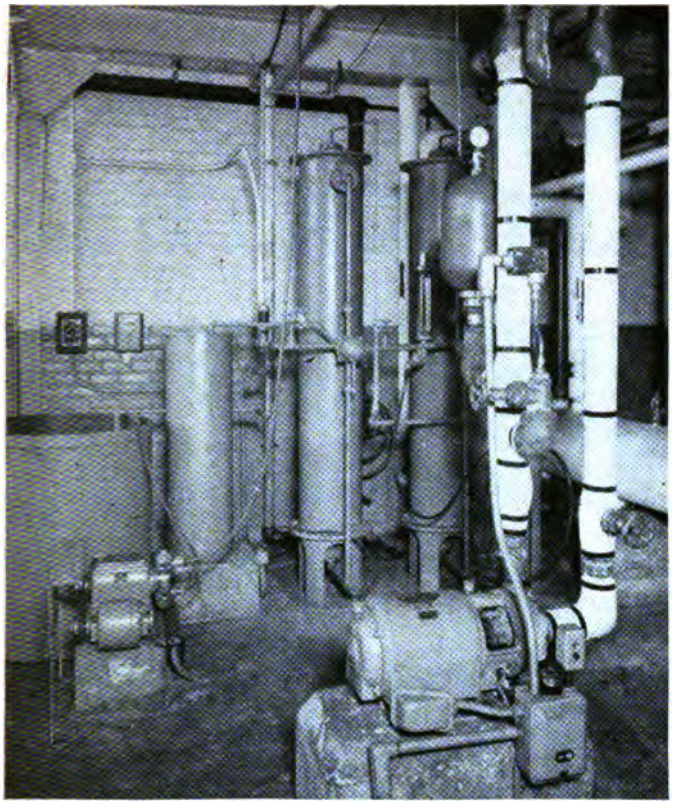
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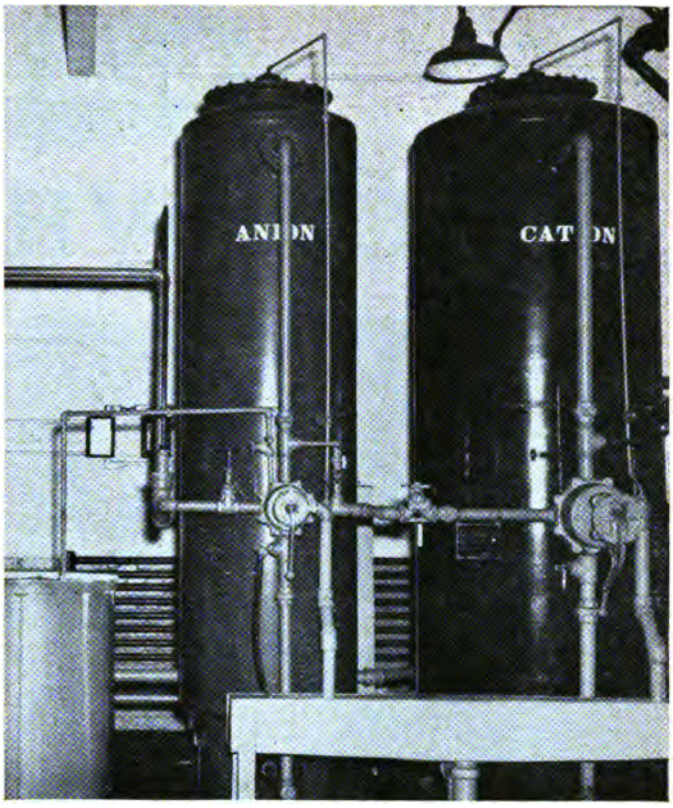
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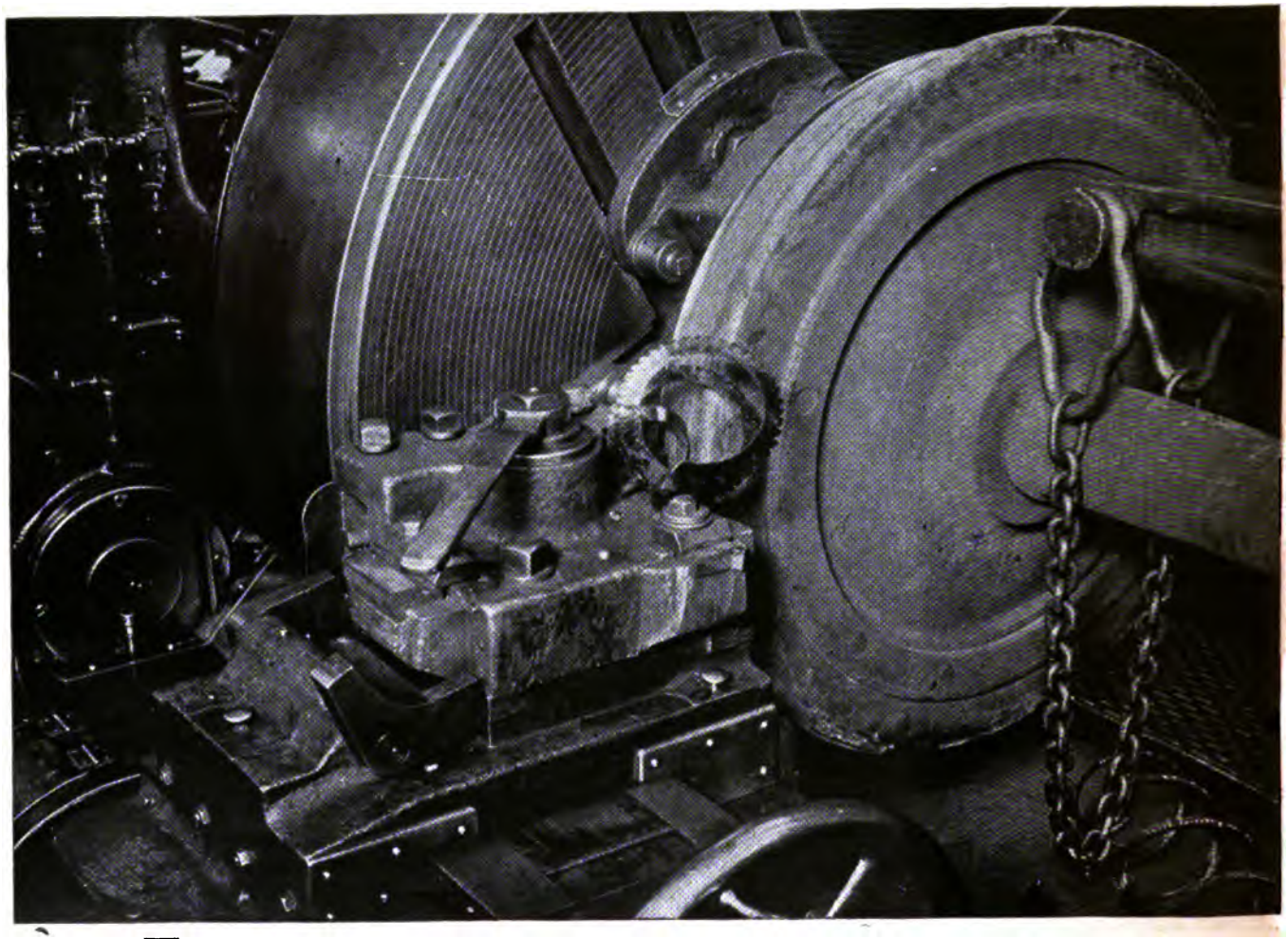
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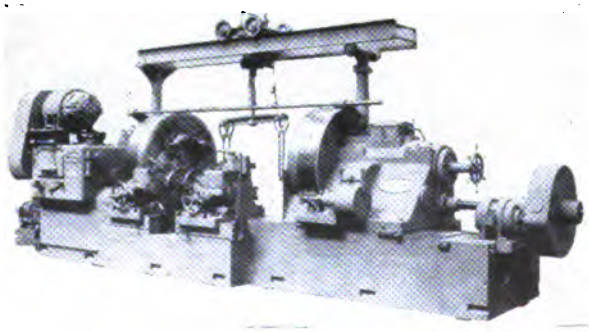
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Canadian Transportation

C. E. Jefferson on Equalization of Rates

(Editor's Note.—In view of the fact that the phrase "equalization of freight rates" is one which has been glibly spoken by many people and which has appeared frequently in newspapers during the past three years, while the Board of Transport Commissioners for Canada has been so busily occupied with freight rate matters, and particularly in view of the fact that very few people have any idea what the equalizing of railway freight rates throughout Canada (if it were possible, which it is not), would involve, we welcome the opportunity to place before our readers the words of one who is eminently qualified to advance his views upon the matter, viz., the Traffic Vice President of the Canadian Pacific Ry. Co., C. E. Jefferson. As recorded in our August issue, pg. 429, Mr. Jefferson addressed the Transportation Conference at the recent annual meeting of the Canadian Manufacturers' Association, dealing, first, with the adoption of the Diesel-electric locomotive in Canada, and, second, with freight rate equalization. His remarks on Dieselization were recorded in the August issue, while those on rate equalization appear in the following, and readers, in studying them, are given opportunity to note that there are many things to be considered in any attempt at rate equalization, one of which is the necessity of allowing the railways to continue to earn enough to pay their bills. Mr. Jefferson makes clear that while some equalization is obtainable, there are some rates, viz., commodity rates unrelated to mileage rates, and rates arrived at through the influence of competition, which, by their very nature, could never find a place in any programme of equalization.

After mentioning the waybill study of Canadian railway freight traffic upon which the Board of Transport Commissioners has embarked, Mr. Jefferson explains how various class and commodity rates could be fitted into an equalization scheme, shows how no real equalization could be effected with the Crows Nest grain rates retained, and then examines the equalization proposals advanced by various provinces (with none from Ontario and Quebec and with the Maritimes dead against). He finds the British Columbia proposals, with each impossible in view of the other, particularly intriguing.

Possibly it should have been mentioned before that the necessity for freight rate equalization is more fancied than real, that is, as between Western Canada and Eastern Canada. Mr. Jefferson makes this very clear by his statements and tabulated figures, viz., C.P.R. Exhibit 171 as filed with the Royal Commission on Transportation.)

In addressing his audience on the subject of railway freight rate equalization, Mr. Jefferson stated as in the following.

The so-called disparity in freight rates as between Eastern Canada and



C. E. Jefferson,
Vice President, Traffic, Canadian Pacific Ry. Co.

Western Canada and the need for equalization of rates is a matter which the Western Provinces have complained about since prior to the Western Rates Case of 1914.

A great deal his been said at the hearings before the Royal Commission on Transportation as well as in the briefs filed with the Commission by the Western Provinces with respect to the alleged disparity in such rates. It is the view of the Railways that the disparity complained of has been greatly over-stated.

Western interests have, over the years, consistently claimed that freight rates in Western Canada are higher than in Eastern Canada and that the West is paying a larger share of the transportation burden than it feels it rightfully should.

The Western Provinces have contended there should be equalization or more uniformity in freight rates within Western Canada when compared with rates within Eastern Canada, and while we do not deny that at one time the rates in the West were substantially higher than the rates in the East, it is doubtful, taking the rate structure as a whole, that there is any disparity at the present time.

The Class rates in the West are generally higher than in the East and likewise certain Commodity rates in the West are higher than those in the East. On the other hand, there are a number of Commodity rates, including mileage scales, which move substantial tonnage, lower in the West than in the East.

The disparity which the Western Provinces have complained of for so many years has been materially reduced by lower increases having been authorized in the various General Rates Cases since 1914 in the Western rates than in the Eastern rates and also by removal of the Mountain Differential from the British Columbia rates in July of last year.

The table herewith clearly indicates the manner in which increases and reductions in freight rates have been made in Ontario and Quebec compared with Prairie and Pacific Territory from September, 1914, to May, 1950. (Table on next page.)

The table shows conclusively that since 1914 freight rates in Ontario and Quebec have been increased more extensively than in either Prairie Territory or Pacific Territory. With the much smaller increase in Prairie Territory and Pacific Territory than in Ontario and Quebec, the amount of disparity has been materially reduced. This in itself has been a forward step toward equalization.

The need for equalization of rates as between the various rates regions or territories of Canada is recognized by the Railways. The Railways do not object to equalization so long as it is accomplished in a manner not harmful: to the Railways; to the shippers and receivers; and to the best interests of Canada.

During the hearings before the Board of Transport Commissioners in 1947, in the 21% Case, the railways informed the Board that they would welcome a General Freight Rates Investigation into the entire rate structure throughout Canada after the conclusion of the hearings in that Case, which was a revenue case.

In April, 1948, the Governor-in-Council issued Order-in-Council P.C. 1487, in which the Board of Transport

Effective Date	Ontario Quebec	Prairie Territory	Pacific Territory	Authority
September 1, 1914	100	100	100	Western Rates Case — Gen. Order 125
December 1, 1916	105	100	100	Eastern Rates Case — Gen. Order 167
March 15, 1918	121	115	110	15% Case — Gen. Order 213
August 12, 1918	151½	125	125	25% Case — Order-in-Council PC 1863
September 13, 1920	212	169	169	40% Case — Gen. Order 308
January 1, 1921	204½	162½	162½	January 1921 Reduction Case Gen. Order 308
December 1, 1921	189½	150	150	December 1921 Reduction Case Gen. Order 350
August 1, 1922	189½	150	132	August 1922 Reduction Case Gen. Order 366
April 8, 1948	229	182	160	21% Increase — Order 70425
July 1, 1949	229	182	140	Mountain Differential — Order 72298
October 11, 1949	247	197	151	8% Increase — Order 73123
March 23, 1950	266	211	162	16% Increase — Order 74034
Total Increase from September 1, 1914	166	111	62	(16% over rates in effect prior to 11th October, 1949.)
Percentage of Increase	166%	111%	62%	

(This table was filed with the Royal Commission by the Canadian Pacific Railway as Exhibit No. 171.)

Commissioners was ordered to conduct a General Freight Rates Investigation.

In July, 1948, the Railways filed an application with the Board of Transport Commissioners for a further increase in freight rates, in which application the railways made the following statement:—

"The Applicants propose to submit to the Board upon the hearing of the General Freight Rate Inquiry, upon which the Board is now engaged, a plan by which certain class and commodity rates may be equalized as between Eastern and Western Canada in an attempt to assist the Board in its Inquiry and to eliminate, so far as is reasonably possible, the complaints which have been made with regard to so-called inequalities in the freight rate structure."

A great deal of study has been given to the matter of equalization. There are many important factors which must be considered and disposed of before this goal can be attained, among the more important being the preservation of the carriers' revenues and the desire to bring about equalization with the least possible disturbance to industry, because equalization cannot be accomplished without some rates in both Eastern and Western Canada being increased if the carriers' revenues are to be preserved. Furthermore, a reduction in the Western class rates and an increase in the Eastern class rates, including the Maritimes, will in the view of the Railways require an amendment to the Maritime Freight Rates Act.

In the submission to the Royal Commission by one of the Western Provinces it has been suggested that equalization be accomplished by always taking the lowest class or commodity rates of either Eastern or Western Canada as the yardstick for the uniform rates and if that did not give the carriers sufficient revenue for their needs, a general percentage increase would be applied to such equalized rate structure. The railways, of course, are not agreeable to any such procedure, because, if the rates were equalized by always using the lowest basis their revenues would be greatly depleted, and based on our experience during the last three or four years we would expect strenuous opposition to any increase to bring them up to the level required to meet the financial requirements of the railways and to enable the Railways to give the efficient service to which it is considered the public is entitled.

The Board of Transport Commissioners have undertaken a waybill study of intra-Canadian traffic covering all carload and less-than-carload shipments which moved on five specified days in 1948 and 1949. This study involved the collection by the railways of all of the waybills covering such traffic having both its origin and destination at points in Canada, including import and export traffic through Canadian ports, with the view of determining the amount of traffic moved under the various types of rates, as well as other essential data.

No equitable equalization of rate schedules could be made until such a study has been completed.

The equalization study so far made indicates, and the Royal Commission have been so informed, that it is the view of the Railways that equalization of freight rates within reasonable bounds is not impossible.

When appearing as a witness before the Royal Commission on Transportation, and answering a question put to me in cross-examination by Counsel for the Commission upon the subject of equalization, I made the following comment:— "I do not think we will ever have what you could term complete equalization, without dislocation of industry. But you can have equalization of certain things. I do not think you can have equalization of everything."

The Railways believe it would be possible to equalize class rates and commodity mileage scales, as well as specific or point to point commodity rates, which are directly related to commodity mileage scales.

The Railways do not believe that it would be possible to equalize either special commodity rates not directly related to mileage rates, or the competitive rates, because such specific commodity rates reflect factors and circumstances peculiar to each movement, and it is not possible to equalize the competitive rates because those rates must be based on the competition they are designed to meet.

When appearing as a witness before the Royal Commission on Transportation I offered the following sche of equalization of rates with cert qualifications:— .

As to the Standard Mileage Class Rates.—The first step would be to average the first class rates in the Ontario-Quebec and the Prairie-Pacific standard scales.

The second step is to establish the relationships between the classes. It is proposed that the following relationship shall be established:—

First Class	100%
Second Class	85%
Third Class	70%
Fourth Class	55%
Fifth Class	45%
Sixth Class	40%
Seventh Class	35%
Eighth Class	35%
Ninth Class	40%
Tenth Class	30%

The third step is to work out the appropriate rate of taper due to distance. This will probably be done by applying to the equalized first class rate a minimum for distances of 40 miles and less and by adding amounts for each five-mile block up to and including 100 miles; for each ten-mile block up to and including 500 miles; for each twenty-five mile block up to and including 3,000 miles.

After study it was not found practicable to take the average rate of taper of the existing Eastern and Western standard mileage scales. Neither is it deemed fair, as suggested by Alberta in its brief, to accept the rate of taper in Western territory as the rate of taper on the equalized scale. This is because the rate of taper on the Prairie standard scale is much sharper than in the Eastern standard scale.

As to the Distributing Class Rates.—It is proposed that the new equalized distributing scale would be arrived at by using, for distances 200 miles and less 90% of the new equalized first class standard rates, and for distances over 200 miles 85% of the first class standard rates, with the proviso that the rate for 200 miles shall be the minimum rate for distances in excess of 200 miles. The relationship between the classes and the rate of taper will accordingly follow the relationship and rate of taper in the equalized standard scale.

It should be noted at this point that the Superior standard class rates, which are now higher than any scale in Canada, will be abolished, and the new equalized standard and distributing class rates made applicable to that area.

As to Class Rates between Eastern Canada and Western Canada.—Your Commission will recall that the class rates between Eastern Canada and Western Canada are a combination of two factors; that is to say, west of Fort William, the Fort William terminal rates apply, and east of Fort William the basing arbitraries apply. The terminal rates are the Prairie standard mileage class rates reduced by the effect of the assumed mileage between Fort William and Winnipeg.

East of Fort William the basing arbitrary is blanketed throughout the territory Montreal and West to Fort William.

The equalization proposal will necessitate a revision of both these factors. The Western factor will become the new equalized distributing class rates with the elimination of the assumed mileage. The Eastern factor will be increased somewhat in order to compensate for the reduction in the class rate scales in the West as a result of the equalization proposal. As the arbitrary east of Fort William has nothing in common with other rate scales either as a whole or as regards the individual classes, and as they apply from and to stations in Eastern Canada over a wide area, it is not possible to measure the realignment of the arbitraries by comparison with the changes made in rates in Eastern Canada.

After much study a tentative conclusion has been reached that these basing arbitraries can only be increased about one half of the extent to which the class rates for comparable distances in Eastern Canada will be increased under the equalization proposal. This is on the assumption that since the basing arbitrary covers a wide area as a blanket, one half of the rate of increase would cover the same increase at the average point. Accordingly the basing arbitraries east of Fort William will probably be reconstructed by increasing the present Fifth Class basing rate by about 12 cents; by assuming the Fifth Class rate to be 45% of First Class; and by scaling the other classes on the same percentage relationship as the proposed new equalized class rates. Under such a proposal the intention would be that the basing arbitraries for the territory east of Montreal would continue to exceed the Toronto-Montreal basing rates by the same amounts as at present, and that the current rail-lake-rail and water-rail differentials will be maintained for all territories.

This change in the East-West class rates will probably require the establishment of a new rate group which it is proposed to call the Northern Ontario rate group. This will include the territory on and south of the line of the Canadian National (National Transcontinental) east of Armstrong; all territory east of Port Arthur and North of Lake Superior, St. Mary's River, Lake Huron, and Georgian Bay; territory on and north of the line of the Canadian National from South Parry to Scotia; territory on and west of the line of the Canadian National from Scotia to North Bay; and territory on and west of the line of the Ontario Northland from North Bay to New Liskeard and the Ontario-Quebec boundary to the line of the Canadian National (National Transcontinental).

As to the Commodity Mileage Scales.—The Board will recall that during the regional hearings comparisons were made by reference to exhibits filed in the 21% Case which showed that in Western Canada certain of the commodity mileage scales were lower than in Eastern Canada and that the reverse was true in a number of other instances. Exhibits 53 to 60 in the 21% Case show these differences.

The problem of equalizing these scales since they involve a large volume of traffic, is to find not only a proper basis for equalization in itself but also one which will yield to the railways approximately the same revenue as is received under the present mileage scales while causing the least disturbance to shippers and consignees.

This is a work of some magnitude and complexity. It can only be completed when the information obtained from the waybill study now being undertaken by the Board, is made available. This study involves in itself a large amount of work on the part of the railway staffs and not all of the test days have as yet occurred. The test days have been spread throughout the year so as to reflect seasonal changes in traffic movements. In all probability it will be many months before the compilation and analysis of the data can be completed.

However, careful and extensive consideration of the matter so far indicates that the most satisfactory method of constructing equalized commodity mileage scales will result from basing them on percentages of the proposed uniform standard mileage rates. As indicated above, the relationship must depend upon the outcome of the waybill study.

Certain of the point-to-point commodity rates are related to these scales and accordingly when the commodity mileage scales are equalized, those of the point-to-point commodity rates which are related to them will also be equalized.

An exception in the equalization in the commodity mileage scales will have to be made in certain cases where the commodity mileage scales both in Eastern and Western Canada have been designed to meet motor truck competition. It is not practicable to attempt to equalize these scales, because the competitive forces which affect them vary in different sections of the country.

As to Point to Point Commodity Rates.—Because of the large number of these rates and the fact that they reflect not only local conditions but also reflect the needs of local industries it is not, in the opinion of Canadian Pacific, practicable to attempt to equalize these rates with the exception of those that are related to the commodity mileage scales.

The Province of Alberta suggests a means of equalizing these rates by taking the lowest rate affecting a particular commodity as the basis for equalization. No equalization can, in the opinion of Canadian Pacific, be accomplished on such a basis without great disturbance to industry as a whole and without a serious effect on the revenue of the railways.

As to Competitive Rates.—Since competition varies in different parts of the country, and since competitive rates would be unjustly discriminatory except for the competition, it is not practicable to equalize such rates as between Eastern and Western Canada."

This pattern of equalization is not objectionable to the Railways, providing the result attained maintains a reasonable preservation of the Railways' revenues.

It is the firm conviction of the Railways that equalization would not be "true equalization" unless the so-called Crow's Nest grain rates in Western Canada were allowed to find their proper level under the jurisdiction of the Board of Transport Commissioners.

The rates on grain and grain products in the West, as you all probably know, are on a very low basis as a result of an agreement between the Canadian Pacific and the Government of Canada, made in 1897, commonly known as the Crow's Nest Pass Agreement, which provided for the building of a line of railway from Lethbridge, Alberta, to Nelson, British Columbia, through the Crow's Nest Pass.

Under the terms of the Crow's Nest Pass Agreement the rates on grain and flour to Fort William, Port Arthur and beyond in effect in 1897 were reduced by 3c per 100 lbs., and were to apply from all shipping points then in existence.

In 1918, under the authority of the War Measures Act of 1914, the Governor-in-Council by Order-in-Council authorized the same increase being made in the Crow's Nest grain rates from points in the Prairies to Fort William and Port Arthur as was made in the United States grain rates from Western United States to Duluth. The Western grain rates were further increased in the 40% Case of 1920 but only July 6th, 1922, the reduced rates of the Crow's Nest Pass Agreement were restored.

In 1925, by amendment to the Railway Act, the Crow's Nest basis was extended to apply on grain and grain products from all points on all railways in Western Canada to the Head of the Lakes, with the result that today the rates are 3c below the basis which existed over 50 years ago.

In 1927, by Order of the Board in the General Freight Rates Investigation, the grain rates from the Prairies to Pacific Coast Ports for export were reduced to the Crow's Nest basis.

The Railways have taken the position before the Royal Commission on Transportation that the Grain rates should be removed from the Statute and placed under the jurisdiction of the Board of Transport Commissioners the same as all other rates.

Since 1897 there has been a vast change in economic conditions during which time we have experienced two World Wars, with an enormous increase in the costs of labour, materials and supplies. Surely it seems out of all reason that the freight rates on such a large volume tonnage as grain and grain products should be held rigidly at a basis lower than they were in 1897.

To remove from the jurisdiction of the Board such a large part of a rate structure which the Board is charged with controlling is clearly wrong in principle and detrimental to sound rate making and to the efficient operation of a railway undertaking.

It is not the purpose to argue Western grain rates here today; they are merely mentioned because they must of necessity be taken into account in any plan of "true equalization" of freight rates in Western Canada as compared with rates in Eastern Canada.

Should the Western grain rates not be removed from the Statute, as the Royal Commission on Transportation have been asked to recommend, and placed under the jurisdiction of the Board of Transport Commissioners the same as all other rates, the Board would of necessity require to take cognizance of such a situation in prescribing any pattern of equalization of freight rates. This would detrimentally affect the rate structure in the Western Provinces. To do otherwise would not establish "true equalization".

While there is unanimity among the Western Provinces in the principle that equalization of freight rates is desirable, the manner in which it would be achieved differs. The Maritime Provinces do not subscribe to or support the views of either the Western Provinces or the Railways.

All of the Western Provinces have made submissions to the Royal Commission on Transportation with respect to equalization of rates. Manitoba and Alberta have proposed that amendments be made to the Railway Act which would make equalization mandatory.

Manitoba suggests that the Railway Act be amended in order to ensure the establishment of equality where operating conditions and the character of traffic are equal. Manitoba's proposed amendment to the Railway Act would require the Board when determining applications for increases or reductions in rates to have due regard to the establishment and maintenance of equality of tolls between various localities in Canada. I must admit that I do not see how the amendment proposed by Manitoba would achieve any useful purpose.

Counsel for Saskatchewan stated that while exact equalization would be desirable they quite realized how, in a practical way, it may be impossible to achieve. Saskatchewan, therefore, had no amendment to the Railway Act to offer. Apparently, they consider the matter is one which should be left for consideration by the Board of Transport Commissioners in the forthcoming General Freight Rates Investigation.

Alberta in their submission stated that complete equalization of all rates cannot be realized in practice. The amendments to the Railway Act which they have proposed would, however, make complete equalization mandatory, with the exception of competitive rates, and special rates made to assist in the development of new industries which they would permit to be maintained on a depressed basis for a period not exceeding three years.

Counsel for British Columbia stated that "all rates and tolls in Canada should be equal wherever this is possible". British Columbia suggested an amendment to Section 314 of the Railway Act which would be far-reaching in its effect. The amendment which they have proposed would leave no room for any consideration for difference in circumstances and conditions and would require the railways to charge the same rate for the same distance on any given commodity.

British Columbia, I might say, has also recommended to the Royal Commission that freight rates be based on the cost of service principle. Personally, I do not see how the railways could ever have a rate structure to suit the needs of industry throughout the country based on a rigid cost of service principle, and I cannot see how one could be reconciled with the other, because with freight rates based on a cost of service principle there could be no equalization throughout Canada as they suggest.

Counsel for the Transportation Commission of the Maritime Board of Trade, at the hearing before the Royal Commission on May 15th, stated:—"This Commission has not advanced nor does it subscribe to or support any proposal of so-called equalization of freight rates. It is the belief of this Commission that so-called rate equalization is impossible of achievement. Proposed equalization is particularly objectionable to this Commission, inasmuch as it would set in operation the same process which took place in connection with the Maritime freight rate structure between 1912 and 1925, and which was strongly deplored by the Sirois Commission."

No representations have been made by the Provinces of Ontario and Quebec to the Royal Commission; neither have any amendments to the Railway Act been proposed by these Provinces.

In conclusion may I say that while equalization of freight rates, within reasonable qualifications, may appear desirable, it no doubt is some distance away before this will be accomplished.

It should, however, be emphasized that no one province or section of the country should expect equalization of Eastern and Western rates only where it would result in reductions. If equalization of freight rates is to be achieved everyone must accept "the bitter with the sweet" and be prepared to accept increases as well as decreases in their rates.

C.N.R. Electric Cars

Attention was called in our August issue to an announcement by E. A. Bromley, Vice President, Purchases and Stores, C.N.R., that an order had been placed with Canadian Car and Foundry Co., Ltd., for six self-propelled coaches and 12 trailers for operation on the C.N.R. electric lines into Central Station, Montreal, serving communities between Montreal and St. Eustache, as well as Ahuntsic, Montreal North and Cartierville. Some information in regard to these cars was given, and is supplemented by the following. The cars are to be operated in units of three — one motor car and two trailing cars — semi-permanently coupled. Trains will be made up with these units to a total of three, six, nine or twelve cars.

The motorcar will be 70 feet in length over the couplers and 71½ tons in weight. The trailing car will be 70 feet in length over the couplers and 50½ tons in weight. The motorcar will seat 88 passengers and each of the trailing cars will seat 84 passengers, making a total seating capacity for 256 passengers for each 3-car unit. The seats and aisles are designed for comfort and ease of entraining and detraining suburban passengers.

The engineman's control position will be at one side of the vestibule at one end of the motor car and at one end of each trailing car. The control end at the motor car will be facing forward and the control end of the trailing car will be facing backward, so that each unit can be operated from either end. The unit in turn will have multiple unit control, so that the engineman can control the complete train of any number of units from any one end.

The acceleration will be automatic, similar to the present modern street cars, i.e., the controller is placed in full position and the train as a whole picks up speed at a predetermined fixed rate. Each motor car will have traction motors on each of its four axles, totalling 1,000 h.p.

These cars will be equipped with modern lighting, and heating will be by electric heaters underneath the passenger seats, with automatic temperature control. Each trailing car will have one dry toilet hopper.

The equipment, as a whole, is particularly well suited for fast suburban service, which is becoming more and more of a necessity in the Montreal area with the ever-increasing passenger traffic trend.

Non-Technical Description of the Diesel

(Editor's Note.—In connection with the formal opening of its new Diesel-electric locomotive building plant near London, Ont., dealt with in an illustrated article in our September issue, General Motors Diesel, Ltd., issued a very instructive and non-technical article on its locomotives, entitled "What Makes a Diesel Tick". The design, construction and operation of a Diesel-electric locomotive are therein explained for the layman in such desirable fashion that we are reproducing the article here, for the benefit of those readers who heretofore have not had opportunity of securing a thorough understanding of the Diesel-electric principle. Indeed, it will doubtlessly be found of interest also by those who are directly concerned with Diesel-electric locomotive operation, and such readers would do well to review some of the technical descriptions of Diesel-electric locomotives which have appeared in past issues of this journal, after reading the non-technical matter in the following. For example, the leading article in our May issue, describing the 2,250 h.p. locomotives placed in service by the Canadian Pacific on the Montreal-Wells River run, could be read with profit after reading the article appearing here, and the technical details presented in the May issue article could be lined up with the non-technical information in the following, to provide a quite complete understanding of the manner in which the Diesel-electric equipment utilizes fuel oil to provide plenty of power at the drawbar.)

In its description of the Diesel-electric locomotive, General Motors Diesel, Ltd., states as in the following.

There are three broad classifications of General Motors Diesel locomotives operating in Canada, viz., freight, passenger and switching locomotives.

While there are differences in the design of these locomotives to fit them to their widely varying services —a freight locomotive must pull a heavy load but does not have to go a hundred miles an hour, while a passenger locomotive does not have to pull such a heavy load but must go safely at hundred miles an hour or better speeds—the method of making power and getting it down to the rails is the same in all three kinds.

The locomotives are made in units that can be coupled together to fit the power to the weight of the train to be hauled and the speed of the schedule. General Motors F7 Diesels for freight or heavy duty passenger service are made in units of 1500 horsepower. So a Diesel locomotive of the F7 type may be 1500, 3000, 4500 or 6000 horsepower.

There are six major sections of a Diesel locomotives: (1) The Diesel engine. (2) The electric generator. (3) Control apparatus. (4) Traction motors. (5) Locomotive body. (6) Trucks.

The easiest way to understand what happens in a Diesel locomotive is to quickly trace the flow of power and then go back over each step and see what occurred. It isn't really as simple as it sounds. There actually are about seventy thousand pieces in one unit of a General Motors locomotive.

The Diesel engine actually makes the power, just as the gasoline engine does in an automobile. This power, however, is not in the right form to turn the wheels of the locomotive. To get it into the right form we transform the whirling motion of the drive shaft at one end of the engine into electricity.

To turn this whirling motion into electricity we attach an electric generator, or dynamo, onto the engine drive shaft. The engine turns the generator and that makes electricity.

Now this electricity will not operate the locomotive properly unless it is controlled. You have to make the train go slow or fast, or not at all. So a rather elaborate system of controls has been evolved by General Motors. The levers which the engineer manipulates are part of this control system—a very small part, incidentally. Many things happen automatically, over which the engineer has no direct control.

After the electricity has passed through the control system it finally reaches electric motors which are located in the trucks and geared directly to each axle. In railroad parlance these are called "traction motors." When the traction motors turn, the axles turn the wheels and the locomotive starts moving.

You cannot suspend all this machinery in thin air so you have to have something for it to rest on and to keep it out of the weather. Hence, the locomotive body.

Finally, the body cannot just slide along the rails so you supply trucks, which consist of a frame, a device for attaching the trucks to the car body and wheels to hold the entire assembly to the tracks.

Now let's run back over those six sections, in slow motion so to speak, and find out what happens.

The Diesel Engine

Why does General Motors use a Diesel engine in its locomotives instead of a gasoline engine, or a steam engine, or a gas turbine? The reason is that the Diesel engine gets more power out of a pound of fuel than any other mechanical prime mover yet devised by man, that can be made in a size and shape that will fit into the necessary limits of a railroad car and yet be powerful enough to do what has to be done in modern railroading. In short, the Diesel is the most economical available engine. To give you a quick idea, a Diesel engine gets about thirty-six per cent of the power out of a pound of fuel; the finest aviation gasoline engines get about twenty-five per cent; your ordinary automobile engine sometimes will give you about twenty per cent; the steam locomotive engine as we ordinarily know it will give you from six to eight percent; the latest experimental steam turbine locomotive will give you about ten percent; and the gas turbine—no one has any reliable figures because no one has yet been able to evolve a gas turbine that will continuously meet the severe requirements of railroading, but in experimental form it gets something over 20 per cent under the most favorable conditions. The Diesel engine has other advantages. It operates longer between overhauls than anything else ever tried on the railroads. In a locomotive it is far less susceptible to weather variations than any other form of power the railroads have ever had offered to them. It is less susceptible to changes in altitude than other prime movers.

The Diesel engine, as developed by General Motors, is very much like the gasoline engine which powers your automobile, with these principal exceptions:

1. It has no spark plugs and no carburetor.
2. It burns fuel oil similar to a good grade of household furnace oil.
3. It has a two-stroke cycle instead of the four-stroke cycle of the gasoline automobile engine.

The Diesel engine uses compression ignition instead of spark ignition. In a gasoline engine, air and gasoline are mixed in the carburetor and sucked into the cylinder. The spark jumps and sets fire to the mixture, causing the explosion which forces the piston down to do some work. In the Diesel, just the air is pumped into the cylinder. Valves close, trapping the air. The piston goes up, compressing the air to one-sixteenth its original volume. As anyone who ever operated a tire or football pump knows, air gets hot when it is compressed. When you compress it as much as it is in the Diesel engine it gets very hot—about 1,000 degrees Fahrenheit, in fact. This is hot enough to burn almost any combustible. At this point the fuel oil is shot into the cylinder. It mixes with the air and catches fire. The resultant explosion forces the piston down.

The two-stroke cycle differs from the four-stroke cycle in that in the two-stroke engine the piston only makes two motions for every work stroke. It goes down when the explosion occurs and it comes up to compress the air and is ready for the next explosion. In the four-stroke gasoline automobile engine, the piston goes down after the explosion, it comes up to force the burned gases out, it goes down to suck in a new charge of gasoline and air and then it goes back up to compress the mixture to be ready for the next explosion and work stroke. In short, the Gen-

eral Motors two-stroke cycle Diesel engine wastes only one stroke of the piston for each work stroke, whereas the four-stroke cycle gasoline wastes three strokes for each work stroke.

The device by which the fuel oil is injected into the General Motors Diesel cylinder is interesting. The GM injector, which looks a little like a .45 caliber automatic pistol, bites off exactly the right amount of fuel to do the work which the throttle setting indicates, and spits it into the compressed air at the top of the cylinder under tremendous pressure. This is necessary because the fuel must be atomized and it must travel evenly out to the edges of the cylinder in order to provide an even explosion over the entire top of the piston. The fuel oil is forced through six holes, each about nine one-thousandths of an inch in diameter, under pressure that rises to as much as 20,000 pounds to the square inch. It travels about 800 miles an hour as it goes through the tiny holes, spreading out into an extremely fine mist. The speed and pressure of one of these tiny streams of oil, just after it goes through the aperture, is so great that if a man were to put his finger in front of it the oil column would dart right through the unfortunate digit..

The Electric Generator

The generators in General Motors locomotives make direct current, which is best for operation of the traction motors under conditions met in railroad service. In the latest type of locomotive, known as the F7, these generators are of an entirely new type, developed by General Motors, in that they produce both direct and alternating current in the same assembly off the same drive shaft. This provides a great advantage in the locomotive design. Direct current motors have disadvantages when applied to the operation of the various auxiliaries that are necessary in Diesel locomotives, such equipment as cooling fans, pumps and the like. Since there was nothing but direct current available heretofore, these auxiliaries have been driven by belts or extension shafts operating directly off the Diesel engine. This made it necessary to locate these auxiliaries close to the engine, and the designers could not always do the things that they thought would provide the handiest servicing and the most efficient operation. With the advent of the new generator, auxiliaries now are driven by directly connected alternating current motors. The fans now are placed where they do their work best, and are easiest to get at in case of adjustments or repairs are needed, because it is a very simple matter to merely lead wires to an electric motor.

The Control Apparatus

One needs the equivalent of degrees in mechanical and electrical engineering to thoroughly understand all the control apparatus in the General Motors Diesel locomotive. The designing engineers set themselves a hard problem when they decided in the very first General Motors locomotive to make the manual controls which the engineer operates as nearly like those of a steam locomotive as was humanly possible. This, for the reason that they did not want to make it necessary for an old time "hogger" to go to school to learn how to operate a Diesel. They have succeeded so well that a man who has handled nothing but steam locomotives all his working life can sit down at the head end of a General Motors Diesel locomotive and after one or two practice trips with an instructor take out his train by himself with complete assurance.

The engineer has a throttle, a train brake lever, an engine brake lever, a sander, and a reverse lever just as he has on the steam locomotive. They are considerably easier to operate than the controls of a steam locomotive, because they require less effort to move and they are all conveniently grouped within easy reach without moving from the comfortable swivel arm chair in which the engineer sits.

The engineer on a General Motors freight locomotive does have to learn to handle two new gadgets. One is called the "emergency control pedal." The other is the transition control. The engineer must keep the emergency control pedal depressed with his foot at all times when the train is in motion. If he should become incapacitated and his foot pressure be removed, all power is immediately shut off and an emergency brake application set. The transition control serves the same purpose as the gear shift machinery of an automobile, although there is utterly no resemblance between the two. Originally, manual movement of the transition lever to various positions enabled the engineer to change the circuits between the generator and traction motors so as to limit voltage from the generator, just as he shifted gears in his automobile to avoid overspeed of the engine. The engineer had the choice of four positions. Now, this entire operation is done automatically.

General Motors locomotives also may be equipped with another very useful development. This is known as the electric retarding brake. It sometimes is called the "dynamic" brake. After power is shut off, the engineer can slacken speed of the train either with regular air brakes or with the electric retarding brake, or with both at the same time if he desires. In the simplest terms, all that happens is that the engineer starts pulling on the electric retarding brake lever—a tapered little rod about five inches long—and the windings of the traction motors are, in effect, reversed. This makes generators out of the traction motors. Now, unlike a traction motor, a generator doesn't want to go anywhere. It resists motion with everything its powerful magnetic field has. So all of the traction motors—now generators—are trying to keep from going somewhere. This, naturally, slows down the train. In fact, this brake is so powerful that it will hold most freight trains on all but the worst mountain down grades at safe speed without any or with very little help from the air brakes. This results in considerable savings because it lessens the wear on brake shoes and wheels and in many cases eliminates the long stops necessary for wheel cooling and brake and wheel inspections at the bottom of long grades. When the engineer wants to pick up speed again, all he does is flip that little lever out of braking position, pull the throttle and go ahead.

The machinery with which all these seemingly simple things are made to happen is so complicated that no attempt will be made herein to explain it. Perhaps some idea of the ingenuity involved can be gained from the following tracing of what happens when the engineer pulls the throttle. This simple movement of his hand and arm telegraphs—by a system of electric and pneumatic controls—to the Diesel engine and the control circuits. All through the system the controls then automatically make the Diesel engine, the generator and the traction motors move the train as the engineer desires. As a result of this, the Diesel engine may be running at top speed while the train is just starting, or it may be loafing along at three-quarters speed while the train is whizzing at a hundred miles an hour.

The Traction Motors

The job of the traction motors has been described in preceding passages. These are a special kind of electric motor. They have to be made with far greater ability to take variations in load than the ordinary electric motors with which our vacuum cleaners and electric washing machines are equipped. As most persons who have studied ordinary high school physics know, if an ordinary electric motor is subjected to a heavy load at slow speeds for even a very short time. either a fuse blows out or the motor will get so hot that the metal will melt and the motor has to be rebuilt. If the fireman had to dash around replacing fuses every time the locomotive had to chug up a grade for longer than a minute or two, no railroad would have the locomotive on its rails. Likewise, if the traction motor were built to withstand these heavy, slow periods but couldn't get up and dust when it was time to go a hundred miles an hour, no railroad would have it. So the traction motors in Diesel locomotives are very special kinds,

enormously rugged and so designed and built that they not only can comfortably take the trains, within their tonnage capacities, up the long hills, but also can move them rapidly when the terrain permits. Incidentally, the traction motors design is such that the Diesel locomotives can pull so strongly that they normally take long heavy trains up grades in much less time than the most powerful steam locomotives.

These motors are known as direct current series connected motors. Less powerful versions of this type are used in street cars. One outstanding characteristic of this type of motor makes it just what the doctor ordered for train propulsion. This characteristic is that the slower the motor turns the harder it pulls. It is obvious that a harder pull is needed when the train is just being started or is lugging up a grade. When this motor is running slowly it demands a lot of amperes and not so many volts from the generator. As it gets up speed it decreases its demand for amperes and increases its demands for volts. The more volts it gets the faster it operates. When the train comes to a grade and starts slowing down, the demand for volts goes down and the demand for amperes goes up, and the motors automatically start pulling harder, thereby taking the train up the grade faster.

Locomotive Bodies

From the outside, the bodies of General Motors locomotives look very much like some special kind of Pullman sleeper with a streamliner snout. The resemblance is not even skin deep, because even the outer covering of a GM Diesel is something special. The skin of a General Motors locomotive carries none of the structural strains and stresses. It is there only to protect the machinery and the crew from weather and small incidents such as a flying stone, and to add to the attractiveness of the exterior appearance. The side walls consist of three-eighths inch laminated plywood with an outer covering of steel sheets. The nose is made of smoothly rounded steel plates about an eighth of an inch thick. But if something heavy hits this locomotive it soon finds out there is something terrific beneath the skin.

The framework of the body follows bridge design. It consists of a network of welded beams and braces. This framework is not made strong just to resist impacts. We must remember that the entire weight of the train is to be hitched to the tail of the locomotive car. Diesel locomotives may be called upon to start as much as ten thousand tons of freight trains. This puts quite a strain on the coupler and in turn on everything between the coupler and the wheels which the traction motor is turning. If the locomotive body were not made as it is, it would get stretched like taffy at a party.

The designers have paid considerable attention to providing for comfort and safety of crews in the locomotive cars. The control compartment is located high in the nose, above the ordinary line of impact in case of a collision. The beams and braces between the engineer and fireman and the front of the nose are quite comforting to think about. You may note a rather pretty band that runs around the nose at floor level and think it is just for decoration. Actually it is called the "anti-climber". It tends to keep anything the locomotive collides with from climbing up over the nose to get at the operators. Those nicely streamlined noses have another function than just for beauty, or to "split the wind." They are scientifically designed to carom obstructions away from the track.

The control cabs are sound deadened, both by the wall between the cab and the engine room and with sound-proofing material in the ceilings. The cabs are hot water heated in winter and cooled by roll-down windows in summer. Front windows have automatic windshield wipers which the worst Canadian blizzard has not licked, as well as slot defrosters just like those we have in our automobiles. Both engineer and fireman sit in comfortably shaped and leather-upholstered swivel arm chairs, actually better designed to prevent fatigue from continuous occupancy than the chairs most executives have in their offices. The cab interiors are painted a cheerful light grey.

In the case of General Motors freight locomotives, or the new General Motors F7 or FP7 locomotives (which can be either freight or passenger or a combination of both, in accordance with the way they are geared), there is space in the engine room for a train heating boiler. If the locomotive is to be used strictly for freight service, the railroad obviously does not go to this expense, but if it is to be used solely or partially in passenger service the train heating plant goes in.

The Trucks

The machinery which finally drives the train is located in the trucks. These trucks have been thoughtfully designed to provide stability and safety at high speeds, to provide quick and sure means of stopping trains, to take curves easily and surely and to distribute locomotive weight for the least stress on rails and bridges. They also are designed to distribute the application of power so there will be less slippage on wet tracks. One of the truly great contributions of Diesel locomotives to railroading has been their ability to take trains through snow and ice conditions, ordinarily arriving right on time. The fact that the Diesel power plant is practically unaffected by cold weather accounts for this to some extent, but the distribution of driving wheels at intervals under the locomotive also has a great deal to do with it. In the case of a four unit, 6,000 horsepower General Motors F7 locomotive, the driving wheels are spaced at intervals over about a hundred and ninety feet of track. Suppose the locomotive ploughs into a snow drift. The streamlined nose helps to throw snow to either side of the track, but the front trucks still will be operating on some mighty slippery rails. However, back of those four wheels of the front truck are twenty-eight driving wheels gripping the track like the feet of a centipede. The Diesels usually go through when every other form of transportation is stopped cold.

The truck developed by General Motors includes another unusual feature that contributes greatly to reduction of sway in the locomotive. This is called "outside swing hanger suspension." What the engineers mean by this is that they hang the weight of the locomotive car on the axles at points outside the wheels, instead of between the wheels as has been railroad practice for many years. To understand the stabilizing effect of this stand with your feet close together and note how easy it is to sway from side to side. Now stand with your feet wide apart and try to sway. That's outside swing hanger suspension in its simplest form.

Railway Accidents

In July, according to the report of the Operating Department of the Board of Transport Commissioners for Canada, there were 248 accidents on Canadian railways, with 22 persons killed and 235 injured, and 40 accidents at level crossings, with 18 persons killed and 48 injured, a total of 288 accidents, with 40 persons killed and 283 injured. Of those killed, seven were employees and 33 others, and of those injured 34 were passengers, 195 employees and 54 others.

The level crossing accidents by provinces were:

Prince Edward Island	1
Nova Scotia	1
New Brunswick	1
Quebec	5
Ontario	18
Manitoba	2
Saskatchewan	9
Alberta	2
British Columbia	1
	40

Automobiles were involved in 22 accidents, motor trucks in six, track motor cars in three, pedestrians in two, tractors in two, a motorcycle in one, a bicycle in one, a hand car in one, a waggon in one and a road grader in one. Chief causes were driving on crossings in front of approaching trains and driving into side of trains. Twenty-nine accidents occurred at unprotected crossings and 11 at protected crossings, and 35 occurred after sunrise and five after sunset.

Railway Operating and Financial Results

May, 1950 and 1949

	All Railways		Canadian National Rys.		Canadian Pacific Ry.	
	May, 1950	May, 1949	May, 1950	May, 1949	May, 1950	May, 1949
Operating Revenues:—						
Freight	$65,313,000	$57,707,771	$32,673,000	$27,056,000	$26,242,330	$24,918,323
Passenger	6,296,194	6,556,813	3,001,900	3,085 500	2,819,117	2,983,621
Mail	755.622	734,400	333,805	326.222	344,890	332,381
Express	3,336,756	3,148,304	2,338,900	2,272,318	895,277	751,581
Other passenger train	976,145	889,188	305,804	331,374	551,187	537,733
Water line	353,318	398,626			126.557	154,444
All other	3,431,281	2,779,868	2,114,191	1,734,686	1,042,976	793,720
Total railway operating revenues	80,362,316	72,214,970	40,767,600	34,806,100	32,022,334	30,471,803
Operating Expenses:—						
Maintenance of way and structures	16,536,463	15,324,488	6,862.021	6,496,242	8,389,581	7,454,630
Maintenance of equipment	15,608,121	16,206.173	8,647,389	8,593,623	5,876,326	6,412,417
Traffic	1,495,628	1,432,389	672,892	659,309	707,721	669,158
Transportation	32,326,832	32,137,494	17,754,350	17,300.839	11,996,910	12,336,746
Miscellaneous operations	1,185,245	1,047,800	504,491	370.976	551,940	561,289
General	3,577.359	3,472,148	1,789,173	1,691,338	1,505,167	1,504,544
Total railway operating expenses	70,729,648	69,620,492	36,230,316	35,112,327	29,027,645	28,938,784
Operating Income:—						
Net operating revenue	9,632,668	2,594.478	4,537,284	Dr. 306,227	2,994,689	1,533,019
Railway tax accruals	1,378.588	1,398,814	620,496	610.664	515,605	454,304
Hire of equipment	Dr. 966.085	Dr. 935 963	Dr. 287,819	Dr. 268,356	Cr. 32 774	Dr. 120,709
Joint facilities rents	Dr. 164,349	Dr. 174,909	Cr. 20,287	Cr. 1,131	Dr. 105,829	Dr. 101,901
Operating income	7,123,646	84,792	3,649,256	Dr. 1,184,116	2,406,029	854,105
Operating Statistics:—						
Average miles of road operated	43,215.57	43,227.67†	22 411.77	22.410.27†	17.019.3	17.032.3
‡No. of tons carried (Rev. Fr.)	13,680.520	12.966,180†	5,846.642	5.275 493†	4,696,113	4,851,747
No. of tons carried one mile (Rev. Fr.) Thous.	4,433,665	4 335.884†	2,262,254	2.053,267†	1,848,456	1,950,641
No. of tons carried one mile (All Fr.) Thous.	4,998,237	4,844,523†	2.574,484	2.329.995†	2,025,805	2,172,398
Gross ton mi., excl. of locomotive & tender Thous.	10,984,560	10,575,070	5,607,255	5 041.722	4,399.757	4,676,197
No. of revenue passengers carried	2,353,495	2,391.210†	1,347,932	1,281,088†	808,836	879,538
No. of revenue passengers carried one mile Thous.	226.328	240.697†	106,576	111.320†	100.420	109,262
Freight train miles	6,681,276	6,404,745	3,363,671	3,014,600	2,773,693	2 892.143
Passenger train miles	3,778,987	3,650,642	1.843.117	1,781.234	1,681,627	1,618,914
Total train miles (rev. and non rev.)	10.674,919	10,310,209	5.339.126	4,937.554	4,520,050	4 592.779
Freight car miles—loaded	173,792.865	167,059,254	89,363.549	82.273.036	69 084,781	71,409.747
Freight car miles—empty	74,417,062	73,611,023	37,527,281	32.067.220	29,588,698	34 201,872
Passenger train car miles	33,747,637	32,225,081	16,763 712	15,928.865	14 573.120	13,864,506
Total amount of pay-roll	$41,937,716	$41,367,138†	$23,382,239	$22,419.766†	$16,037.070	$16,425,349
Number of employees	176,935	179,161†	99.437	98,692†	67.274	70,295
Pay-roll chargeable to railway operating expenses	$39,145,214	$38,697,119†	$21,678,495	$20,684,843†	$15,044,200	$15,604,965
Daily Averages per Mile of Road Operated:—						
Operating revenue	$59.99	$53.49	$58.68	$50.10	$60.69	$57.71
Operating expenses	$52.80	$51.05	$52.15	$50.54	$55 02	$54.81
No. of tons moved one mile (Rev. Fr.)	3,310	3,236	3,256	2.956	3 504	3,694
No. of tons moved one mile (All Fr.)	3,731	3,615	3,706	3,354	3,840	4,114
No. of rev. passengers carried one mile	169	180	153	160	190	207
Averages per Freight Train Mile:—						
Freight revenue	$9.78	$9 01	$9.71	$8.97	$9.46	$8.62
No. of tons of freight (Rev. Fr.)	664	677	673	681	686	674
No. of tons of freight (All Fr.)	748	756	765	773	730	751
Gross ton miles	1,644	1,651	1,667	1,672	1.586	1,617
Loaded freight cars	26.0	26.1	26.6	27.3	24.9	24.7
Empty freight cars	11.1	11.5	11.2	10.6	10.7	11.8
Average per Passenger Train Mile:—						
Passenger train revenues	$2.98	$3.10	*$3.24	*$3.38	$2.74	$2.84
Passengers carried	60	66	58	62	60	67
Passenger cars	8.9	8.8	9.1	8.9	8.7	8.6
General Statistics:—						
Average operating expenses per train mile	$6.63	$6.75	$6.79	$7.11	$6.42	$6.30
Average length of haul (Rev. Fr.) Miles	324	334	387	389	394	402
Average passenger journey Miles	96	101	79	87	124	124
Average tons per loaded freight car mile	28.6	29.0	28.8	28 3	29 3	30 4
Average freight receipt per revenue ton mile	1.473c	1.331c	1.444c	1.318c	1.420c	1.377c
Average passenger receipt per passenger per mile	2.789c	2.794c	2 817c	2.772c	2.807c	2.731c
Ratio of operating pay-roll to operating revenues	48.7%	53.6%	53.2%	59.4%	47 0%	51.2%
Ratio of operating expenses to revenue	88.01%	96.41%	88.87%	100.86%	90.65%	94.97%

‡ Includes duplications. † Includes statistics for Newfoundland District

§ Revised to include Newfoundland. * Includes gross express revenue.

The above figures relate to those railways with annual operating revenues of $500,000 or over.
C.N.R. figures include only C.N.R. lines in Canada with the exception of Hudson Bay Ry.
C.P.R. lines include all subsidiary lines in Canada.
Passenger and freight train miles contain a proportion of mixed train miles, divided on the basis of freight and passenger car miles in mixed train service. Total train miles include freight and passenger with their proportion of mixed train miles, special train and non-revenue train miles. The average freight revenue per freight train mile includes only rail line revenue. Average train revenue per passenger train mile includes revenue from passengers, mail, express, baggage, parlor cars, etc.

Good Improvement in May

The Canadian railways had a more satisfactory month in May this year than in that month in 1949, as the figures above, supplied by the Dominion Bureau of Statistics, Public Finance and Transportation Division, demonstrate. The gross earnings of the railways collectively increased from $72,214,970 in May last year to $80,362,316 in the month this year; with the increase in total operating expenses having been from $69,620,492 to $70,729,648, the net operating revenue was up from $2,594,478 to $9,632,668, and the operating income from $84,792 to $7,123,646. The operating ratio improved from 96.41% to 88.01%. The increase in gross earnings in May this year over those of the month last year was one of 11.3%, while that in total operating expenses was only 1.6%.

Despite the disastrous flood in Manitoba, the number of tons of revenue freight carried by the railways collectively increased from 12,966,180 in May last year to 13,680,520 in the month this year, but the average length of freight haul came down from 334 miles in the month last year to 324 miles, with the result that the increase in the revenue freight ton mileage was not as large proportionately as that in the revenue freight tonnage, having been in the ratio of 4,336:4,434, or by 2.3%; the increase in revenue freight tonnage was one of 5.5%. With the average freight receipt per revenue ton mile up from 1.332c in May last year to 1.473c in the month this year, and with the moderate increase in revenue freight ton mileage just mentioned, the freight traffic revenue of the railways collectively increased from $57,707,771 in May last year to $65,313,000, or by 13.2%.

The passenger traffic revenue of the railways collectively decreased from $6,556,813 in May last year to $6,296,194 in the month this year, or by 4%. The number of revenue passengers carried decreased from 2,391,210 in the 1949 month to 2,353,495, or by 37,715, or 1.6%, and, with the average passenger journey reduced from 101 miles in the 1949 month to 96 miles, the revenue passenger mileage was reduced in the ratio

2,407:2,263, or by 6%. The average receipt per passenger mile increased slightly in the month this year, viz., from 2.724c in the 1949 month to 2.782c, but this increase was not sufficient to counterbalance the decline in the revenue passenger mileage.

Mail revenue of the railways collectively increased from $734,400 in May, 1949, to $755,622 in the month this year, or by 2.9%, and express revenue was up from $3,148,304 to $3,336,756, or by 6%. On the other hand, a decline of 1.5% was recorded in the earnings in the month this year in "other passenger train" revenue, and one of 11.4% in water line revenue. As concerns "all other" revenue, there was an increase of from $2,779,868 in the 1949 month to $3,431, 281, one of 23.4%.

As stated, the increase in operating expenses in May this year, over those of that month last year, was one of only 1.6%, contrasted with an increase of 11.3% in gross earnings. While the outlay for maintenance of way and structures was up from $15,-324,488 in the 1949 month to $16,536,-463 in the month last year (with at least part of the increase due to track flooding and washouts in the Manitoba floods this spring), the maintenance of equipment expenditures were reduced from $16,206,173 in the 1949 month to $15,608,121, or by 3.7%. Traffic expenses were up somewhat, and transportation expenses increased from $32,137,494 in the month last year to $39,326,832. Expenses of miscellaneous operations increased also, and general expenses were up from $3,472,148 to $3,577,-359.

The increase in net operating revenue of the railways collectively from $2,594,478 in May, 1949, to $9,-632,668, was well carried through to operating income. The railway tax accruals decreased slightly in May this year, as did the joint facilities rents debit, and while there was an increase in the hire of equipment debit, it was not large. The operating income, as stated, was up from $84,-792 in May last year to $7,123,646 in this year's month.

In the handling of the freight traffic offering in May this year, there were 6,681,276 freight train miles operated, an increase over the 6,404,-745 recorded for May last year. Average freight revenue tonnage per train was down from 677 in the 1949 month to 664, the reduction as concerns all freight having been from 756 tons to 748. On the average, there were 26 loads per train in May this year, compared with 26.1 in the 1949 month, and 11.1 empties, compared with 11.5. Gross ton miles per freight train mile decreased slightly, viz., from 1,651 in May last year to 1,644. Despite the reduction in the average freight tonnage per train, earnings per freight train mile were up from $9.01 in May last year to $9.78, because of the increase in May this year in the average freight rate.

In the passenger end of the business, there was some increase in the number of passenger trains miles operated in May this year, despite the decrease in number of revenue passengers carried and in revenue passenger mileage, and, despite the slight in-

All Railways

Five Months Ended May 31

	1950	1949	1948	1947
Operating Revenues	$359,950,791	$352,163,594	$330,112,864	$306,475,904
Operating Expenses	337,365,736	340,977,083	303,025,686	277,586,724
Net Operating Revenue	22,585,055	11,186,511	27,087,178	28,889,180
Operating Income	10,143,612	*1,494,150	10,443,318	12,514,917

*Deficit.

The above figures apply to all Canadian railways with annual operating revenue of $500,000 or over; those of the C.N.R. United States lines are not included.

Canadian Pacific Railway

(Including Canadian Subsidiaries)

	Gross Earnings 1950	Gross Earnings 1949	Working Expenses 1950	Working Expenses 1949	‡Net Earnings 1950	‡Net Earnings 1949	Increase
January	$24,544,458	$27,767,495	$26,488,163	$28,068,619	*$1,943,705	*$301,124	†$1,642,581
February	26,403,293	26,899,834	26,360,682	27,093,984	42,611	* 194,150	236,761
March	32,229,816	30,890,969	28,965,680	30,077,045	3,264,136	813,924	2,450,212
April	29,782,941	30,136,788	27,843,187	28,832,033	1,939,754	1,304,755	643,999
May	32,022,334	30,471,803	29,616,305	29,617,698	2,406,029	854,105	1,551,924
June	32,322,644	29,068,906	28,883,220	28,557,873	3,439,424	511,033	2,928,391
July	33,176,525	29,251,121	29,334,418	27,549,828	3,842,107	1,701,293	2,140,814
Totals	$210,482,011	$204,486,916	$197,491,655	$199,797,080	$12,990,356	$4,689,836	$8,300,520

*Deficit. †Decrease. ‡After hire of equipment, joint facility rents and taxes.

C.P.R. U.S. Subsidiaries

	Minneapolis, St. Paul and Sault Ste. Marie Rd. 1950	Minneapolis, St. Paul and Sault Ste. Marie Rd. 1949	Wisconsin Central Ry. 1950	Wisconsin Central Ry. 1949
July:—				
Railway operating revenues	$3,578,962	$3,413,771	$2,643,197	$2,041,818
Railway operating expenses	2,681,193	2,450,414	1,756,542	1,673,333
Net revenue from railway operations	897,769	963,357	886,655	368,485
Railway operating income	647,848	730,576	546,640	236,048
Net railway operating income	640,464	693,450	388,329	113,612
Seven Months to July 31:—				
Railway operating revenues	$18,747,842	$18,977,131	$15,848,172	$15,596,701
Railway operating expenses	17,570,855	16,949,145	12,050,213	12,427,596
Net revenue from railway operations	1,176,987	2,027,986	3,797,959	3,171,105
Railway operating income	*277,890	640,512	2,663,055	2,163,203
Net railway operating income	*483,563	349,836	1,634,820	1,271,944

*Deficit.

Canadian National Railways

	Operating Revenues 1950	Operating Revenues 1949	Operating Expenses 1950	Operating Expenses 1949	Net Revenue 1950	Net Revenue 1949	Increase
January	$35,041,000	$37,309,000	$37,605,000	$38,797,000	*$2,564,000	*$1,488,000	†$1,076,000
February	36,765,000	36,901,000	38,122,000	38,398,000	*1,357,000	*1,497,000	140,000
March	44,865,000	41,436,000	41,796,000	40 591,000	3,069,000	845,000	2,224,000
April	43,978,000	40,355,000	39,522,000	38,748,000	4,456,000	1,607,000	2,849,000
May	47,534,000	40,184,000	41,197,000	39,587,000	6,337,000	597,000	5,740,000
June	47,770,000	40,589,000	41,217,000	39,703,000	6,553,000	886 000	5,667,000
July	50,358,000	41,405,000	44,057,000	41,009,000	6,301,000	396,000	5.905,000
Totals	$306,311,000	$278,179,000	$283,516,000	$276,833,000	$22,795,000	$1,346,000	$21,449,000

*Deficit. †Decrease.

Central Vermont Railway (C.N.R. Subsidiary)

	Month of July 1950	Month of July 1949	Seven Months to July 31 1950	Seven Months to July 31 1949
Railway operating revenues	$1,017,000.00	$795,000.00	$5,960,000.00	$5,534,000.00
Railway operating expenses	759,361.81	652,885.73	4,946,790.90	4,790,418.13
Net revenue from railway operations	257,638.19	142,114.27	1,013,209.10	743,581.87
Net railway operating income	152,716.07	49,651.65	291,167.24	97,506.61
Net income available for interest	182,497.85	24,329.14	190,357.46	*71,657.46

*Deficit.

Combined Figures of C.N.R. Canadian and U.S.A. Lines

	May, 1950	May, 1949
Operating revenues		
Canadian Lines	$40,767,600	$34,806,100
United States Lines	6,766,400	5,377,900
Total	$47,534,000	$40,184,000
Operating expenses		
Canadian Lines	$36,230,316	$35,112,327
United States Lines	4,966,684	4,474,673
Total	$41,197,000	$39,587,000
Net operating revenue		
Canadian Lines	$ 4,537,284	*$ 306,227
United States Lines	1,799,716	903,237
Total	$ 6,337,000	$ 597,000
Operating income		
Canadian Lines	$ 3,649,256	*$ 1,184,116
United States Lines	1,002,567	312,673
Total	$ 4,651,823	*$ 871,443

	Five Months Ended May 31, 1950	Five Months Ended May 31, 1949
Operating revenues		
Canadian Lines	$179,492,900	$170,411,300
United States Lines	28,690,100	25,773,700
Total	$208,183,000	$196,185,000
Operating expenses		
Canadian Lines	$175 332,115	$173 597,794
United States Lines	22,909,885	22,533,206
Total	$198,242,000	$196,121,000
Net operating revenue		
Canadian Lines	$ 4,160,785	*$ 3,176,494
United States Lines	5,780,215	3,240,494
Total	$ 9,941,000	$ 64,000
Operating income		
Canadian Lines	$ 177,946	*$ 6,992,387
United States Lines	2,533,283	579,495
Total	$ 2,711,229	*$ 6,412,892

*Deficit.

crease in the average fare, earnings per passenger train mile declined from $3.10 in the 1949 month to $2.98. Average number of passengers per train was reduced from 66 to 60.

The figures recording the daily averages per mile of road operated by the railways as a whole show that operating revenue per mile of road per day was up from $53.49 in May last year to $59.99 in the month this year, while operating expenses on the same basis were up from $51.95 to $52.80. The revenue freight ton mileage per mile of road per day increased from 3,236 to 3,310, the increase as concerns the ton mileage of all freight having been from 3,615 to 3,731. On the other hand, revenue passengers carried per mile of road per day decreased from 180 in the month last year to 169.

The total payroll for the railways collectively increased from $41,367,138 in May last year to $41,937,716 in the same month this year, or by 1.4%, despite a reduction of 2,206, or 1.2%, in the average number of employees. The payroll chargeable to railway operating expenses, for the roads collectively, was up from $38,697,119 in May, 1949, to $39,145,214, but the operating payroll required only 48.7% of gross earnings, in May this year, compared with 53.6% in the 1949 month.

Results in Five Months

Figures recording the financial results secured by the railways in the first five months of this year and each of the three immediately preceding years appear in a table accompanying this review. It is seen that the net operating revenue of the railways collectively was up from $11,186,511 in the first five months of 1949 to $22,585,055 in the same part of this year, while an operating income deficit of $1,494,150 in the first five months of 1949 was replaced by operating income of $10,143,612 in the first five months of this year.

Transcontinental Railways in June

The gross earnings, operating expenses and net earnings of the two transcontinental railways, for June this year and last, were reported in our September issue, pg. 483, the figures having been furnished by the railway managements. On the Canadian Pacific net earnings increased from $511,033 in June, 1949, to $3,439,424 in June this year, or by $2,928,391. In the first six months of this year, C.P.R. net was $9,148,249, compared with $2,988,543 in the first six months of 1949, a betterment of $6,159,706.

On the Canadian National whole system, in June this year, the net operating revenue was $6,553,000, compared with $886,000 in June, 1949, an increase of $5,667,000. Net for the first half of this year was $16,494,000, compared with $950,000 for the first half of 1949, a betterment of $15,544,000. As stated, these figures are for the whole C.N.R. system. The C.N.R. figures in the large table at the beginning of this review are for the Canadian lines only, but the C.N.R. figures in the accompanying small table, covering the first seven months of this year, are for the whole system.

Trancontinental Railways' Results in July

The figures recording the gross earnings, operating expenses and net earning of the two transcontinental railways for July, this year and last, and for the first seven months of this year and last, appear in accompanying tables. In July further improvement in net earnings of both the Canadian Pacific and Canadian National were recorded. On the Canadian Pacific, gross in July this year was up by $3,925,404, and operating expenses by $1,784,590, resulting in a betterment of $2,140,814 in net.

In the first seven months of this year, C. P. R. gross was up by $5,995,095, compared with that for the first seven months of 1949, while operating expenses in the period this year were reduced by $2,305,425. The result was that net earnings increased from $4,689,836 in the 1949 period to $12,990,356, or by $8,300,520.

On the Canadian National (whole system), gross earnings in July this year were $8,953,000 greater than those for the 1949 month, while operating expenses were up by $3,048,000, with the result that net earninngs were increased by $5,905,000.

In the first seven months of this year, C.N.R. system gross was $28,132,000 greater than in the same part of 1949, while operating expenses were increased by $6,683,000, with the result that the net earnings for the period this year, $22,795,000, were $21,449,000 greater than in the 1949 period.

C.N.R. Canadian and U.S. Lines

Figures from the Bureau of Statistics recording the gross earnings, operating expenses, net earnings and operating income of the Canadian National Rys. lines in Canada and the United States, separately, accompany this review, covering the month of May and the five month to May 31, this year and last. In May this year, system net earnings were $6,337,000, of which $4,537,284 came from Canadian lines and $1,799,716 from U.S. lines; in the month of last year, net earnings were only $597,000, the U.S. lines' net earnings of $903,227 exceeding the Canadian lines' operating deficit of $306,227 by that amount.

In the first five months of this year, C.N.R. system net was $9,941,000, the Canadian lines having earned $4,160,785 and the U.S. lines, $5,780,215. In the first five months of last year, the Canadian lines had an operating deficit of $3,176,494 and the U.S. lines net earnings of $3,240,494, resulting in system net earnings of $64,000.



One of the Three 1,200 h.p., Pantograph-equipped Electric Locomotives Received by the C.N.R. from Canadian General Electric Co. Ltd.

C.N.R. New Electric Locomotives

It was noted briefly in our August issue that the C.N.R. had received from the builder, General Electric Co., three 1,200 h.p., pantograph-equipped electric locomotives for commuter train service out of Central Station, Montreal. These units, an illustration of one of which appears herewith, were received in Montreal on July 28, and an official statement in regard to them, issued July 29, was as follows:—

"Three new electric locomotives were received yesterday by the Canadian National Railways for service on commuter trains operating from Central Station to Mount Royal, Val Royal, Cartierville and St. Eustache, and to Ahuntsic and Montreal North. This additional motive power is required to handle the continued increase in commuter traffic.

"The locomotives were placed in service almost immediately following a brief inspection by S. F. Dingle, Vice President in charge of Operations, C.N.R. and E. R. Battley, Chief

of Motive Power and Car Equipment. Locomotive No. 200 drew the first assignment and hauled yesterday's 6.10 p.m. train to Montreal North.

"Two sets of controls in the center cab enable the locomotives to operate in either direction, and cars can be coupled at either end. The engineer's cab is glass enclosed for clear visibility in all directions, and is raised above the engine hood. The driving wheels have been equipped with roller bearings for easier operation.

"Power for these 1,200 h.p. locomotives is obtained from overhead wires through the pantographs on the roof, and is relayed to four traction motors, one on each axle. There are two pantographs, although normally only one is required to drive the locomotive. The second will be brought into service in stormy weather as a breaker for ice and sleet that might form on the overhead wires.

"The locomotives are numbered 200, 201 and 202, and are painted black, with the C.N.R.'s identifying lettering on the cab in gold."

Walter S. Thompson Retiring . . .

The C.N.R. publicity chief is severing his active connection with the transportation industry, after long association with it, and is being honored at a testimonial dinner, sponsored by the Montreal Men's Press Club, in Montreal, October 7.

As noted briefly in our August issue, pg. 348, Walter Scott Thompson, C.B.E., Director of Public Relations, Canadian National Rys. and all associated and subsidiary enterprises, is retiring in October. To mark the retirement of Mr. Thompson, who is well deserving of the recognition accorded him as the dean of the public relations profession in Canada, the Montreal Men's Club is sponsoring a testimonial dinner for him in the ballroom of the Mount Royal Hotel, Montreal, on the evening of Saturday, October 7, the Club on this occasion functioning as a convenient medium through which Mr. Thompson's many friends, within and outside of the railway industry, may be identified with the occasion. The plans provide for an entirely informal "stag" evening, with a programme of brief addresses and original entertainment.

Mr. Thompson entered the transportation field in 1914 to head the press department of the Grand Trunk and Grand Trunk Pacific Railways, following upon service with Canadian, British and Australasian papers as a news executive. In 1922, he was appointed Director of Publicity of the Canadian National Railways and associated enterprises by Sir Henry Thornton, and Director of Publicity of Trans-Canada Air Lines in 1937. In 1941, he was made Director of Public Relations of the C.N.R. and T.C.A. He relinquished his air line activities on December 31, 1948, to devote his full time and attention to the direction of public relations, advertising and press services for the Railway and its other ancillary services.

Walter Thompson was born on October 22, 1885, the son of a Scottish newspaper editor. Educated at Rutherford College, Northumberland, he entered newspaper work in Fleet Street, London, being on the St. James Gazette, the Daily Express, the Evening Standard and the Observer. After Australasian newspaper experience, he came to Canada in 1911 and was City Editor of the Montreal evening newspaper, The Witness. Later,



Walter Scott Thompson, C.B.E., who is retiring in October from the position of Director of Public Relations, Canadian National Railways, Steamships, Hotels, Telegraphs, Express and subsidiary companies.

he was News Editor of the Montreal Herald, which position he held until his appointment to the Grand Trunk and Grand Trunk Pacific Railways in 1914.

One of the most widely-traveled men in Canada, Mr. Thompson's duties have involved travelling some 50,000 miles a year in maintaining personal contacts with public men, newspaper editors and writers and in overseeing the operation of the branches of his department in New York, Chicago, London (Eng.), Toronto, Ottawa, Winnipeg, Moncton, Halifax and Vancouver. He has handled the press relations for many distinguished visitors to Canada and the United States, including the Prince of Wales and David Lloyd George. He won high praise from those in the newspaper, radio and photographic fields for his handling of their arrangements on the visit of King George VI and Queen Elizabeth in 1939 when he accompanied Their Majesties on their tour through Canada and the United States. In the spring of 1946, he had charge of the press arrangements for the first days in Canada of His Excellency Viscount Alexander, Governor - General-Designate. In 1946 he accompanied His Grace The Archbishop of Canterbury during a visit to Canada.

When the Dominion of Canada celebrated its Diamond Jubilee in 1927, Mr. Thompson was Chairman of the National Pubilicity Committee. At the outbreak of war in September, 1939, he was appointed Director of Censorship and, after his organization of that branch of the war effort, including the successful voluntary system of press censorship, he was called upon in 1940 to organize the Department of Public Information at Ottawa. When he relinquished the post of Director of Public Information to return to the Railway and Air Line, he left senior members from his Montreal office to carry on the work until the end of 1943.

Mr. Thompson says that his hobbies are friendship and fellowship. He has close associations throughout the English-speaking world with those in the advertising, writing and newspaper fields. He is active in many organizations, including the National Press Club, Washington. D.C.; the Canadian Club, New York. and the Engineers Club, Montreal. He is a member of the Montreal Board of Trade and was elected a Fellow of the Royal Empire Society in March, 1948.

He was made a Commander of the Most Excellent Order of the British Empire, (C.B.E.), by His Majesty in the Dominion Day honors list, 1946.

Cartoonists Participate. — A Montreal press report of September 9 recorded that 10 of the leading newspaper cartoonists of Canada have been commissioned to prepare caricatures depicting highlights in Mr. Thompson's career. Enlarged to eight feet high, the illustrations are to form a unique backdrop at the testimonial dinner to Mr. Thompson, which, the report said, is under the patronage of a national committee headed by the Prime Minister, Mr. St. Laurent. The cartoonists participating were listed as Bob Chambers, Halifax Chronicle-Herald; Jim Reidford, Montreal Star; Bob LaPalme, Montreal Le Canada; John Collins, Montreal Gazette; Jack Boothe, Toronto Globe and Mail; Harry Hall, Toronto Telegram; M. R. (Ting) Tingley, London Free Press; Ed McKibbon, Winnipeg Tribune; Arch Dale, Winnipeg Free Press, and Len Norris, Vancouver Sun.

Tribute from Canadian Press.—At Banff, Alta., on September 13, the Canadian Press directors indicated their feeling for Mr. Thompson by adoption of a resolution moved by Senator W. Rupert Davies, of the Kingston Whig-Standard, and seconded by Victor Sifton, of the Winnipeg Free Press. The resolution expressed

regret at the retirement of Mr. Thompson, referred to as a "beloved fellow newspaperman" who for many years advanced the interests of national transportation and "ever remained the good friend and helpful assistant of the men whose job it is to get the news and publish it".

U.S. Railways' Earnings

In March, according to advice from the Association of American Railroads, the Class 1 railways in the United States earned net railway operating income (amount left to the railways after payment of operating expenses and taxes, but before the payment of interest, rentals and other fixed charges) of $75,706,315, compared with $66,102,660 in March, 1949, while the net income, after charges, was an estimated $51 million, compared with $43 million in the 1949 month.

In the three months ended March 31, the net railway operating income was $123,779,467, compared with $131,386,148 in the first three months of 1949, while the net income, after charges, in the first quarter of this year, was an estimated $53 million, compared with $62 million in the first quarter of 1949.

Total operating revenues in the first quarter of this year were 7.5% below those in the first quarter of 1949, while operating expenses were reduced by 8.5%. Thirty-six Class 1 roads failed to earn interest and rentals for the first quarter of this year, 18 being in the Eastern District, one in the Southern and 17 in the Western.

In the 12 months ended March 31 this year, the U.S. Class 1 railways earned a return of 2.89% on property investment, compared with 4.19% in the 12 months ended March 31, 1949. By "property investment" is meant the value of road and equipment as shown by the railway books, including materials, supplies and cash, less accrued depreciation.

The foregoing figures for the first quarter of this year are based on reports from all Class 1 roads, representing a total of 226,640 miles.

April Results

In April, the U.S. Class 1 railways earned net railway operating income of $62,216,877, compared with $64,473,901 in April, 1949, while the net income, after charges, was an estimated $38 million, compared with $40 million in the 1949 month. The April earnings brought the net railway operating income for the first four months of this year to $186,343,345, compared with $196,022,848 in the first four months of 1949, while the net income after charges, of the four-month period, was an estimated $88 million, compared with $98 million in the first four months of 1949.

Total operating revenues in the first four months of this year were 6.7% below those for the first four months of 1949, while operating expenses were reduced by 7.7%. Thirty Class 1 roads failed to earn interest and rentals in the first four months of this year, 14 of these being in the Eastern District, one in the Southern and 15 in the Western. In the 12 months ended April 30 this year, the U.S. Class 1 roads earned a return of 2.88% on property investment, compared with 4.24% in the 12 months ended April 30, 1949.

May Results

In May, the total operating revenues of the Class 1 roads were $745,406,421, compared with $741,088,924 in May, 1949, and total operating expenses were $580,566,624, compared with $600,864,076. The operating ratio came down from 81.08% in May last year to 77.89%. While taxes were up from $69,277,231 in May last year to $80,746,674, the net railway operating income increased from $57,505,223 in the 1949 month to $67,031,547, and the net income after charges was up from $32 million in the 1949 month to an estimated $45 million.

The figures for the first five months of this year and last, for the U.S. Class 1 roads, are set forth in the accompanying table. Total operating revenues in the five-month period this year were 5.2% below those for the 1949 period, while the decrease in total operating expenses was one of 6.8%. As seen, there was very little change in net results as between the two periods, the net railway operating income having decreased slightly in the period this year, and the estimated net income after charges having been up by $2 million. Taxes increased by roughly seven million dollars.

In the twelve months ended May 31 this year, the U.S. Class 1 roads earned an average return of 2.86% on property investment, compared with one of 4.11% in the twelve months ended May 31, 1949. The figures in the accompanying table are based on reports from all of the Class 1 roads, representing a total of 226,581 miles.

In the first five months of this year, 30 of the Class 1 roads failed to earn interest and rentals, 14 of these being in the Eastern District, one in the southern and 15 in the Western.

U.S. Class 1 Railways' Results

	Month of May		Five Months to May 31	
	1950	1949	1950	1949
Total operating revenues	$745,406,421	$741,088,924	$3,444,524,887	$3,633,924,469
Total operating expenses	580,566,624	600,864,076	2,765,378,613	2,967,157,796
Operating ratio—per cent.	77.89	81.08	80.28	81.65
Taxes	$ 80,746,674	$ 69,277,231	$ 353,501,745	$ 346,690,687
Net railway operating income (Earnings before charges)	67,031,547	57,505,223	253,374,891	253,528,070
Net income, after charges	45,000,000	32,000,000	133,000,000	131,000,000

Railway Freight Traffic

April Traffic

In April, the revenue freight loaded on Canadian railways and received by them from foreign connections was:—

Province	April, 1950	April, 1949	April, 1948
Newfoundland	63,211	39,055	
Prince Edward Island	48,645	49,680	49,408
Nova Scotia	778,534	*803,048	944,561
New Brunswick	370,174	365,414	457,974
Quebec	1,822,706	1,848,065	2,330,673
Ontario	4,845,770	*4,993,381	5,409,228
Manitoba	412,852	470,305	425,240
Saskatchewan	602,725	819,025	636,625
Alberta	966,701	1,182,073	1,081,073
British Columbia	920,532	806,052	855,593
Total for Canada	10,831,850	*11,376,098	12,180,375

The products handled in April were as follows, in tons:—

Agricultural	1,948,293	* 2,499,440	1,978,345
Animal	166,804	* 187,671	215,746
Mine	3,951,223	* 3,664,814	4,251,684
Forest	994,897	* 1,037,073	1,468,970
Manufacturers and Miscellaneous	3,770,633	* 3,987,100	4,265,630
Grand Total	10,831,850	*11,376,098	12,180,375

*Revised

The freight loaded on Canadian railways and received from foreign connections in April this year fell below that of April, 1949, by 544,248 tons, or 4.8%, the decrease having been principally in agricultural products and manufactures. Flood conditions in Southern Manitoba toward the end of the month this year decreased loadings. Freight receipts from foreign connections were up in April this year, particularly in coal, pig iron, and iron and steel products. Newfoundland freight figures are included as concerns April in both years. Loadings at Canadian stations in the month this year were 7,958,334 tons, a decrease of 683,986 tons, or 7.9%, from the April, 1949, loadings, with the figures revised to include those for Newfoundland. The loadings were lighter in the month this year for all main groups except mine products. Wheat loadings were reduced by 473,473 tons. Bituminous coal loadings were up from 681,501 tons in April last year to 803,385 tons. The forest products group total was reduced from 945,496 tons in the 1949 month to 909,501 tons, despite an increase of 76,592 tons in the loading of lumber. In the manufactures and miscellaneous group, decreases were recorded in 17 items in April this year, and increases in eight.

In the first four months of this year, the Canadian railways carried 42,078,086 tons of revenue freight, a decrease of 3,514,091 tons, or 7.7%.

Rolling Stock Orders and Deliveries

Canadian National Rys.— Official advice of September 21 was that the C.N.R. had placed an order with Montreal Locomotive Works, Ltd., for eight 1,600 h.p. Diesel-electric road freight locomotives. To the date mentioned, Canadian Car and Foundry Co., Ltd., had delivered to the C.N.R. nine first class passenger cars on an order for 25.

Advice at press time is that the C.N.R. has ordered 5,000 steel box cars at cost of approximately $33 million, with the orders divided among Canadian Car and Foundry Co., Ltd., National Steel Car Corp., Ltd., and The Eastern Car Co., Ltd. Further advice is that the C.N.R. has ordered eight 1,600 h.p. Diesel-electric road locomotives from Montreal Locomotive Works, Ltd. Four of these will be "A" units and four "B" units.

Reference was made in our August issue, pg. 433, to receipt by the C.N.R. from Canadian Car and Foundry Co., Ltd., of a first class passenger car, the first of 25 ordered, which went into service on the morning of July 18, following inspection by Donald Gordon, Chairman and President, S. H. Dingle, Vice President, Operation, O. A. Trudeau, Assistant General Passenger Traffic Manager, and other C.N.R. officers. Exterior and interior views of this car, appropriately referred to as a deluxe coach, appear herewith. A new development exhibited is the provision of a spacious lounge room at each end of the car, for men and women, with adjacent toilet facilities. They have dental bowls, stainless steel wash basins with concealed fittings, full length mirrors, and alcove lounge seats. The women's lounge also has a winged mirror vanity dressing table and boudoir seat, and the men's is equipped with electric razor outlets. The need for increased smoking facilities is recognized in the division of the car, which is separated into two compartments, the one for smokers seating 28 and the other seating 32. Etched glass partitions divide the two compartments and provide an air of spaciousness.



Messrs. Gordon, Dingle and Trudeau Inspect the New Coach

The air-conditioning system operates automatically, without requiring attention from the train crew, as do the ventilating and heating systems. Special controls maintain temperatures in any part of the car within a maximum of two degrees. In addition to the ceiling lights, there are reading lights over each seat, fitted with special focusing lens to eliminate eye strain and arranged to be individually controlled.

The cars are all steel, heavily insulated, and use fabreeka and rubber to deaden sound. Six-wheel trucks, with long wheel base, provide riding comfort, and the windows, exceeding five feet in width, allow a full view of the passing terrain. In the passageway at each end is a new type water cooler, which has a small light attached to illuminate the outlet, and a purifier to ensure clean, sparkling water.

Two interior color schemes are used. One group of cars has blue upholstered seats with a matching shade on the wainscoting below the windows, a ceiling of cream, the panels finished in delicate tones of grey and the passageway wall in Dubonnet. The second group has seats of Dubonnet shade, medium and light smoke grey in panels and ceiling, while the center and end partitions and passageways are in blue. The marboleum flooring matches the rest of the cars in color.

All seats are the "Sleepy Hollow" type, which recline and revolve, are upholstered with soft rubber cushions, have adjustable footrests, and are numbered, so that, if desired, advance reservations may be made.

Mention was made in the August issue, pg. 433, that advice had been received, as the issue was going to press, that the C.N.R. had ordered 22 115-ton, 800 h.p. Diesel-electric switching locomotives from General Motors Diesel, Ltd., London, Ont. Further advice since received is that the value of this order is approximately $2,500,000, and it is stated:— "The locomotives will be of 800 h.p. each, and, on their delivery, they will be assigned to service in various parts of Canada. They are to be 115-ton switchers, powered by an eight-cylinder, V-type Diesel engine, and designed to cover yard, terminal and transfer requirements.

"The purchase of an additional number of this type of Diesel locomotive is in conformity with the announced policy of the railway in applying Diesel power to its transportation requirements.

"With the placing of this order, the



The First of 25 New De Luxe Coaches for the C.N.R.
This coach, with spacious lounge room at each end, has many of the conveniences associated only with sleeping cars in the past.

Canadian National will have in service or building 199 Diesel locomotives.

"The new General Motors plant at London is the latest addition to Canada's large industries, and has just been completed and tooled for production."

Canadian Pacific Ry.—During the period July 19 - August 18, the C.P.R. received four 1,500 h.p. Diesel-electric freight locomotives ("A" units) from Montreal Locomotive Works, Ltd., bringing the number received to 10 on an order for 20.

Also received during the period specified were four 1,500 h.p. Diesel-electric freight locomotives ("B" units) for freight and passenger service from General Motors Diesel, Ltd., London, Ont., these being lead units, model FP-7A, the first two received on an order for 10. Also, during the period there were received 119 50-ton box cars from Canadian Car and Foundry Co., Ltd., the first received on an order for 300. In the same period, the C.P.R. Angus Shops completed and delivered three first class passenger cars, making a total of 63 delivered out of an order for 64, together with a five-bedroom, 10-roomette sleeping car, completing an order for 14.

The C.P.R. is reported as having ordered 500 50-ton box cars from National Steel Car Corp., Ltd.



The First 1,500 H.P. Road Freight "A" and "B" Units of Diesel-electric Power Turned Out for the Canadian Pacific by Montreal Locomotive Works, Ltd.

from Montreal Locomotive Works, Ltd., bringing the total received to 10 on an order for 20; 200 50-ton, steel-sheathed, overhead tank refrigerator cars from National Steel Car Corp., Ltd., completing an order for that number; four 16,000 Imperial gall. tank cars from Canadian Car and Foundry Co., Ltd., completing an order for 20; two first class passenger cars from C.P.R. Angus Shops, bringing the number received to 60 on an order for 64, and one five-bedroom, 10-roomette sleeping car from C.P.R. Angus Shops, bringing the number received to 13 on an order for 14.

In the period August 19 - September 18, the C.P.R. received six 1,500 h.p. Diesel-electric freight locomotives (B units) and six 1,500 h.p. Diesel-electric freight locomotives (A units) from Montreal Locomotive Works, Ltd., making a total of 16 each received on an order for 20 each. In the same period, there were received two 1,500 h.p. Diesel-electric locomotives

A press report received at press time states that the C.P.R. has ordered 2,000 50-ton, all-steel box cars from Canadian builders, with delivery to start during the first quarter of 1951.

The ordering by the Canadian Pacific of 58 Diesel-electric locomotives for operation between Cartier and Fort William, 517.5 miles, was recorded in our issue of December last, pg. 656, where it was specified that 44 of these were ordered from Montreal Locomotive Works, Ltd., and the other 14 from General Motors Diesel, Ltd., whose new plant at London, Ont., was opened on August 11. From Montreal Locomotive Works, Ltd., were ordered 20 1,500 h.p. road freight "A" units, 20 1,500 h.p. road freight "B" units and four 1,500 h.p. road switching units, while from General Motors Diesel, Ltd., were ordered 10 1,500 h.p. "A" units and four 800 h.p. yard switching locomotives. An accompanying illustration shows the first two road freight units turned out by Montreal Locomotive Works, Ltd., viz., an "A" unit which is equipped with control cab and is capable of operating alone, and a booster or "B" unit, used in conjunction with an "A" unit to supply additional power as required.

Canadian Westinghouse Co., Ltd., has received a Diesel-electric locomotive of 0-4-4-0 wheel arrangement from Canadian Locomotive Co., Ltd.

Dominion Foundries and Steel, Ltd., has received five cable bottom hopper dump cars from National Steel Car Corp., Ltd.

Toronto Hamilton and Buffalo Ry.—General Motors Diesel, Ltd., London, Ont., delivered to the T.H. and B., on August 31, two model GP-7, 1,500 h.p. Diesel-electric road switching locomotives, out of an order for four.

United States Railways. — Advice from the Association of American Railroads was that the United States railways installed more new locomotives in the first six months of 1950 than in any corresponding period since 1923. Locomotives to a total of 1,127 were installed in the first half of this year, viz., 1,122 Diesel and five steam. New locomotives on order at the end of the half-year totalled exactly 1,000, viz., 973 Diesel, 23 steam and four electric.

At the beginning of July, the U.S. Class 1 railways and railway-owned refrigerator car lines had a total of 40,122 new freight cars on order, of which 18,186 were scheduled to be built in railway shops and 21,936 by outside builders. In the first six months of this year, 12,795 new freight cars were placed in service by the Class 1 roads and railway-owned refrigerator car lines, and of that number 3,647 were installed in June.

Later advice, dealing with the U.S. equipment situation at the beginning of August, records that there was a substantial increase in orders placed in July, and on August 1 the Class 1 railways and railway-owned refrigerator car lines had 64,235 new freight cars on order. This number included 29,011 box cars, of which 28,311 will be general service cars and 700 will be equipped for special commodity loading. Also included are 2,961 refrigerator cars, 15,366 gondolas, 10,713 open top hoppers, 3,100 covered hoppers, 355 stock, 1,846 flat and 833 miscellaneous.

In the first seven months of this year, the Class 1 railways and railway-owned refrigerator car lines placed 15,988 new freight cars in service, 3,193 of these having been installed in July. The cars placed in service in the seven months were 5,713 box (5,409 general service and 304 equipped for special commodity loading); 1,684 refrigerator; 2,355 gondola, 1,222 covered hopper; 2,158 open top hopper; 145 stock; 2,334 flat, and 17 miscellaneous.

New locomotives installed by the

Class 1 railways in the first seven months of this year totalled 1,289 all Diesel except six steam. New locomotives on order August 1 totalled 1,132, viz., 1,106 Diesel, 22 steam and four electric.

Car Loadings

The table of car loading figures in this issue is an abbreviated one, because of the fact that very few cars were loaded in the week ended August 26 and also in the week ended September 2, on account of the strike of the non-operating employees of the principal railways, which began on the morning of August 22 and was not terminated until September 1. While there were cars loaded on Monday, August 21, and on Friday and Saturday, September 1 and 2, delay was experienced in the loading of anywhere from 100,000 to 150,000 cars of freight because of the strike, in view of the fact that loadings have been running well up to 80,000 cars a week during recent weeks. In the week ended August 19 there were 84,026 cars loaded, and in the week ended September 9, 78,023, increases over the numbers loaded in the corresponding 1949 weeks having been recorded in both weeks this year.

Week Ended August 19

Total loadings in the week ended August 19 this year were, as stated, 84,026 cars, compared with 79,171 in the corresponding 1949 week. Grain loadings decreased from 8,496 cars in the week last year to 4,819, and live stock loadings from 1,807 cars to 1,665. Coal loadings, on the other hand, were up from 5,450 cars in the 1949 week to 6,444; pulpwood loadings from 3,368 cars to 4,314, and loadings of lumber, lath and shingles from 3,893 cars to 6,146. Loadings of miscellaneous freight increased from 5,448 cars to 6,556, but there was a decrease in the loadings of merchandise, l.c.l., from 17,940 cars in the week last year to 17,154.

Week Ended September 9

Total loadings in the week ended September 9 this year yere 78,023 cars, compared with 73,540 cars in the corresponding 1949 week. Grain loadings decreased from 9,373 cars in the 1949 week to 7,272, but live stock loadings increased from 1,681 cars to 1,949. Coal loadings increased from 6,062 cars to 6,129. Loading of pulpwood was up from 2,366 cars in the 1949 week to 3,276, while lumber, etc., loaded increased from 3,293 cars in the week last year to 5,217. Loadings of miscelleneous freight were up from 4,855 cars to 5,678, but loadings of merchandise, l.c.l., again decreased, viz., from 15,983 cars to 15,460.

Loadings in Week Ended September 2

These figures are furnished by the Dominion Bureau of Statistics, Public Finance and Transportation Division, and the division between Eastern Canada and Western Canada is at Fort William, Ont. While we did not receive from the Bureau a separate report covering the loadings in the week ended September 2 (in which the railways were active only on Friday and Saturday, September 1 and 2), figures are included for that week in the report covering the week ended September 9, to show that 47,641 cars were loaded in all of Canada in the week ended September 2, of which 31,351 were loaded in Eastern Canada and 16,290 in Western Canada.

Week Ended:—	August 19			September 9		
	All Can.	East. Can.	West. Can.	All Can.	East. Can.	West. Can.
Grain	4,819	1,916	2,903	7,272	1,222	6,050
Grain Products	3,126	1,674	1,452	2,613	1,353	1,260
Hay and Straw	127	47	80	183	129	54
Fruits, fresh	172	90	82	429	136	293
Vegetables, fresh or green	307	158	149	529	400	129
Other Agricultural Products	229	151	78	130	76	54
Live Stock	1,665	607	1,058	1,949	670	1,279
Butter, Cheese, Eggs	185	72	113	126	55	71
Fresh Meats & Packing House Products (edible)	523	203	320	437	178	259
Other Packing House Products	43	25	18	40	22	18
Other Animal Products	142	106	36	111	58	53
Coal	6,444	3,991	2,453	6,129	3,695	2,434
Coke	650	564	86	874	797	77
Ores and Concentrates	4,265	2,670	1,595	4,081	2,581	1,500
Base Bullion, Matte, Pig and Ingot (non-ferrous metals)	695	443	252	473	316	157
Sand, Stone, Gravel, Plaster, Lime, Brick, Cement, Sewer pipe, Tile	5,792	4,248	1,544	4,789	3,454	1,335
Other Mine Products	2,436	2,149	287	1,910	1,599	311
Logs, Piling, Cordwood	1,156	286	870	1,006	214	792
Pulpwood	4,314	3,950	364	3,276	2,986	310
Lumber, Lath, Shingles	6,146	3,657	2,489	5,217	3,351	1,866
Other Forest Products	552	463	89	380	311	69
Gasoline, Petroleum Oils and Products	5,625	3,967	1,658	4,952	3,366	1,586
Crude Oil	1,673	8	1,665	1,411	15	1,396
Sugar	553	343	210	418	304	114
Iron and Steel Products (manufactured)	1,658	1,465	193	1,646	1,410	236
Implements, Tractors, Machinery, Boilers	656	398	258	438	292	146
Autos, Trucks and Parts	968	859	109	1,208	1,128	80
Fertilizers	543	350	193	447	318	129
Woodpulp and Paper	4,314	3,697	617	3,724	3,215	509
Canned Food Products	538	357	181	687	532	155
Other Products of Manufactures and Misc.	6,556	5,015	1,541	5,678	4,597	1,081
Merchandise, L.C.L.	17,154	12,261	4,893	15,460	11,201	4,259
Total revenue cars loaded	84,026	56,190	27,836	78,023	49,961	28,062
In corresponding week of 1949	79,171	49,382	29,789	73,540	44,680	28,860
Received from connections	33,512	30,842	2,670	30,473	27,925	2,548

Cumulative Totals of Loadings

To time of writing, a report covering the loadings in the week ended August 26 has not been received, and the report covering the week ended September 9 bears a notation to the effect that the figures covering the loadings in the week ended August 26 were not available to the time the report for the week ended September 9 was compiled. For this reason, the figures recording the cumulative totals of loadings from the beginning of the year to September 9 were not available. To September 10 last year, the cumulative total of cars loaded was 2,637,084, and to September 11, 1948, 2,721,753.

Freight Car Condition

Advice from the Car Service Division of the Association of American Railroads is that on August 1 there were 1,721,528 railway-owned freight cars on United States Class 1 railway lines, of which 122,979, or 7.1% of total, were awaiting or undergoing repairs, and that on Canadian railway lines there were 170,794 railway-owned freight cars, of which 10,483, or 6.1%, were awaiting or undergoing repairs.

In the following are specified the numbers of the various classes of railway-owned freight cars on U.S. Class 1 lines on August 1, the numbers of the various classes awaiting or undergoing repairs, and the percentages of such cars on lines.

Classes of Cars	Total Cars on Lines	Cars for Repairs	% of Total
Box, plain and ventilated	650,424	36,897	5.7
Automobile	54,524	3,356	6.2
Gondola	287,038	22,179	7.7
Hopper, open top	563,276	50,201	8.9
Hopper, covered	21,587	355	1.6
Stock	46,491	4,260	9.2
Flat	46,679	2,263	4.8
Refrigerator	18,830	1,589	8.4
Tank	7,733	420	5.4
All Freight Cars	1,721,528	122,979	7.1

Privately-owned Cars on U.S. Lines.—On August 1 there were 216,214 privately-owned freight cars on U.S. Class 1 lines, of which 1,354, or 0.6% of total, were awaiting or undergoing repairs. Included were 102,467 refrigerator cars, of which 679, or 0.7%, were awaiting or undergoing repairs, and 106,115 tank cars, of which 661, or 0.6% of total, were awaiting or undergoing repairs.

Canadian Lines.— Following are particulars of railway-owned freight cars, numbers in bad order and percentages of totals on individual Canadian lines, on August 1:—Algoma Central and Hudson Bay, 1,498 cars on lines, 54 in bad order, 3.6% of total; Canadian National, 91,334, 6,731, 7.4%; Canadian Pacific, 75,486, 3,331, 4.4%; Ontario Northland, 1,438, 45, 3.1%; Toronto, Hamilton and Buffalo, 1,038, 48, 4.6%.

Fairbanks-Morse Diesel Demonstrated

Early in September, a Fairbanks-Morse two-unit, 4,800 h.p. locomotive operated over Canadian National Rys. lines as far east as Montreal, arriving there with the International Limited on September 7. The locomotive employed is a prototype of the modern



Fairbanks-Morse "Consolidation" Type, 4,800 H.P. Diesel-electric Locomotive with C.N.R. Passenger Train in Toronto Terminals.

motive power to be built in Canada by Canadian Locomotive Co., Ltd., at Kingston, Ont., in accordance with plans described in these columns previously. Locomotives of this "Consolidation" type have already proven themselves on many famous runs in the United States, hauling such trains as the Twentieth Century Limited, the Broadway Limited and the Golden State. At the time of the demonstration run in Canada, J. J. Jarrell, Vice President and General Manager, Canadian Locomotive Co., Ltd., announced that tooling preparations to build Diesel-electric road locomotives and switchers were already well advanced at the plant in Kingston, where Fairbanks-Morse opposed-piston Diesel engines will be built also. A statement issued by Canadian Locomotive Co., Ltd., said that tests with the Fairbanks-Morse locomotive in fast freight service had been made in Canada by the C.N.R., and that operating officers were well pleased with the performance. Following the runs in passenger service, the demonstrator locomotive proceeded to Chicago, on September 10, to enter test service on Grand Trunk Western Rd. lines.

The Fairbanks-Morse 2,400 "Consolidation" locomotive provides 42½ h.p. per foot of length. It is built with two four-wheel trucks for freight operation, and with a four-wheel leading truck and six-wheel trailing truck for combination passenger and freight service. As a unit with two four-wheel trucks, total weight is 128.5 tons, all on drivers. With a four-wheel leading truck and six-wheel trailing truck, total weight is 147 tons, with 120 tons on drivers. In both units, wheel diameter is 42 in.; with 65 m.p.h. gear ratio, continuous tractive effort is 52,500 lb. at 14.4 m.p.h., and with 100 m.p. gear ratio, continuous tractive effort is 32,000 lb. at 23.6 m.p.h. Fuel capacity is 1,200 gall. Dynamic braking is available. Two of these units in combination, providing 4,800 h.p. with only two Diesel engines, are said to form one of the most versatile, rugged and compact power plants available to the railway world.

Railway Final Statistics 1948

A preliminary review of steam railway statistics for 1948 appeared in our February issue, beginning on pg. 61. The final railway statistics for 1948, issued by the Dominion Bureau of Statistics, Transportation Division, record that in that year there were total railway gross earnings of $875,832,290, derived as follows:— Rail line, $840,490,270; water line, $3,509,076; incidental, $30,971,144; joint facilities, credit balance, $861,800.

The total operating expenses were $808,126,455, made up as follows:— Maintenance of way and structures, $159,963,352; maintenance of equipment, $174,473,389; traffic, $16,801,286; transportation, rail line, $401,918,016; transportation, water line, $1,886,514; miscellaneous operations, $14,585,751; general expenses, $38,498,147.

The net operating revenue was $67,705,835; tax accruals were $19,695,531, and railway operating income was $48,010,304; gross income was $94,406,025. After all other debit and credit items, including interest of $65,901,400 on funded and unfunded debt, there was a net income deficit of $2,180,505.

Under the heading of "Disposal of Net Income" in the income account Statement for the railways collectively, dividends paid are recorded, and a debit of $88,730,860 is shown, this including an additional sum of $88,568,940 transferred from profit and loss to depreciation reserves to bring the Canadian Pacific Ry. account into line with accumulated reserves computed on the basis approved and recorded by the Income Tax Department. On this basis, the 1948 operations for the railways collectively resulted in a debit balance of $112,-

(Continued on page 556)

Income Account Figures, All Canadian Railways, 1943-1948

	Year ended December 31					
	1943 $	1944 $	1945 $	1946 $	1947 $	1948 $
Gross earnings from						
operation	778,914,565	796,636,786	774,971,360	718,501,764	785,177,920	875,832,290
Operating expenses	560,597,204	634,774,021	631,497,562	623,529,472	690,821,047	808,126,455
Net operating revenue	218,317,361	161,862,765	143,473,798	94,972,292	94,356,873	67,705,835
Tax accruals	44,414,192	35,092,157	30,777,455	24,500,296	26,342,165	19,695,531
Railway operating income	173,903,169	126,770,608	112,696,343	70,471,996	68,014,708	48,010,304
Outside operations—						
Revenue	36,590,995	38,343,737	40,649,845	(1)	(1)	(1)
Expenses (+Taxes)	31,974,544	34,488,852	34,976,340	(1)	(1)	(1)
Net revenue	4,616,451	3,854,885	5,673,505	7,816,175	7,818,867	4,538,041
Hire of freight cars Cr. balance			3,197			
Income from other sources	36,054,889	35,940,738	33,850,382	35,620,933	38,698,718	41,857,680
Gross income	214,574,509	166,566,231	152,223,427	113,909,104	114,532,293	94,406,025
Deductions—						
Hire of freight cars Dr. balance	13,064,964	8,178,517	7,603,365	8,144,635	12,045,982	11,272,614
Lease of other roads	6,569,711	6,490,844	6,297,595	6,194,806	5,218,141	5,229,356
Other rents	8,048,420	7,768,856	7,698,597	4,123,007	4,743,816	4,789,715
Other properties loss	8,033	1,364,637	2,899,934	9,712,070	5,320,831	3,118,150
Interest on funded and unfunded debt	75,660,048	74,177,422	71,838,531	69,122,464	66,106,580	65,901,400
Other deductions	27,160,806	6,894,290	3,944,312	3,399,808	2,947,246	6,275,295
Total	130,511,982	104,874,566	100,282,334	100,696,790	96,382,596	96,586,530
Net Income	84,062,527	61,691,665	51,941,093	13,212,314	18,149,697	†2,180,505
Disposal of net income—						
Dividends—Common	451,198	14,307,496	17,498,195	17,802,240	17,993,031	18,322,437
Preferred	5,090,782	5,090,782	5,079,500	4,605,682	4,605,682	4,605,682
Sinking funds & res.	3,389,173	39,683	40,613	51,287	157,338	2/88,730,860
Investment in railways and miscellaneous	6,485,175	3,436,145	1,799,465	1,947,022	4,349,572	1,254,347
Total debits	15,416,328	22,874,106	24,417,773	24,406,231	27,105,623	112,913,326
Total credits	3,000,343	6,447,940	2,083,161	3,765,261	3,352,785	2,462,984
Balance to General Balance Sheet	‡71,646,542	‡45,265,499	‡29,606,481	†7,428,656	†5,603,141	†112,630,847

‡Cr. †Dr. (1)Net only reported. 2/See explanation in reading matter.

Canadian Transportation

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TORONTO, CANADA, OCTOBER, 1950

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Transportation Appointments

The information under this head, which is gathered almost entirely from official sources, is compiled with the greatest care, so as to ensure accuracy. Anyone who may notice any error in the announcements will confer a favor by advising the Editor.

Canadian National Railways

F. C. BROAD, previously Division Freight Agent, Ottawa, has been appointed Division Freight Agent, Hamilton, Ont.

E. H. CAMERON, previously Travelling Freight Agent, North Bay, Ont., has been appointed District Freight Agent, London, Ont.

E. C. CHAMP, previously Division Freight Agent, Hamilton, Ont., has been appointed General Freight Agent, Toronto.

W. G. DAVIS, previously Division Freight and District Passenger Agent, North Bay, Ont., has been appointed Division Freight Agent, Ottawa.

R. DIXON, previously Supervisor of Smoke Abatement, Montreal, has been appointed Temporary Diesel Road Foreman of Engines, Montreal District, succeeding T. C. Collinson, promoted. Headquarters, Montreal.

C. G. GINN, previously Assistant Car Foreman, Richmond, Que., has been appointed Car Foreman there, with headquarters at Richmond and with jurisdiction at Sherbrooke as well as at Richmond.



J. G. Heisler,
Superintendent, Sleeping, Dining and Parlor Car Department, Manitoba District, C.P.R. (See June issue, pg. 310).

G. R. GREENOUGH, previously Master Mechanic, New Glasgow, has been apointed Assistant Superintendent, New Glasgow Division, Atlantic Region, with headquarters at New Glasgow, and with jurisdiction over Mulgrave, Oxford, Pugwash, Pictou, Scotia, Sunny Brae and Thorburn subdivisions; also Point Tupper on the Sydney Subdivision.

E. A. LAVERY, previously District Freight Agent, Hamilton, Ont., has been appointed Division Freight and District Passenger Agent, North Bay, Ont.

R. J. MCDOUGALL, previously District Freight Agent, London, Ont., has been appointed District Freight Agent, Hamilton, Ont.

R. O. G. VINCENT, previously Assistant Car Foreman, Joliette, has been appointed Car Foreman there.

Canadian National Railways Express Department

B. K. KIDMAN, previously Traffic Supervisor, North Bay, Ont., has been appointed Agent, Montreal, succeeding D. E. Major, promoted.

D. E. MAJOR, previously Agent, Montreal, has been appointed Assistant Superintendent, Eastern Division, there, succeeding W. T. Ritchie, promoted.

J. J. QUINN, previously Superintendent, Eastern Division, Montreal, has been appointed Superintendent, southwestern Ontario Division, Toronto succeeding H. S. Bullett, retired.

W. T. RITCHIE, previously Assistant Superintendent, Eastern Division, Montreal, has been appointed Superintendent of the division, succeeding J. J. Quinn.

Canadian National Rys.—Grand Trunk Western Rd.

E. G. DISQUE, previously Travelling Passenger Agent, Chicago, has been appointed General Agent, in charge of the new passenger office opened in Milwaukee, September 5.

A. W. MCLEAN, previously Passenger Agent, Duluth, Minn., has been appointed Passenger Representative, Milwaukee, with headquarters in the new passenger office opened there September 5.

Canadian Pacific Railway

L. E. ABBEY, previously Division Master Mechanic, Kenora, Ont., has been appointed Superintendent and Division Master Mechanic, Penticton, B. C., succeeding G. R. Thomas, retired.

A. W. BLACKLER, previously Assistant Auditor of Agencies, has been appointed Auditor of Miscellaneous Accounts, succeeding G. E. Warner. Headquarters, Montreal.



W. E. Griffiths,
Assistant Chief Engineer, Central Region, C.N.R. (See pg. 553).



J. R. Johnston,
Inspector, Investigation Department, Pacific Region, C.P.R. (See pg. 553)

W. H. CHAMBERS, previously Boiler Foreman, Medicine Hat, has been appointed Boiler Foreman, Sutherland, succeeding W. Hase, retired on account of ill health.

OLIVER COCHRAN, previously General Air Brake Inspector, Winnipeg, has been appointed Division Master Mechanic, Saskatoon, succeeding J. J. Raby.

R. A. EMERSON, previously Engineer of Track, has been appointed Assistant Chief Engineer, succeeding R. B. Jones, retired under pension regulations. Headquarters, Montreal.

E. EMMERSON, previously Shop Foreman, Red Deer, has been appointed Shop Foreman, Lethbridge, succeeding R. G. Peggie.

H. E. GUTHEIL, previously Machinist, Regina, has been appointed Night Foreman, Estevan, a new position.

D. E. MACDONALD, previously Auditor of Payrolls, has been appointed Auditor of Disbursements, succeeding James Lorimer, retired on pension. Headquarters, Montreal.



E. P. Stemshorn.
Assigned to special duties in the Mechanical Department, C.N.R., Montreal (See July issue, pg. 384.)

I. E. MAGRI, previously Carman, Vancouver, has been appointed Assistant Coach Yard Foreman there, succeeding W. H. Parker.

RALPH D. MATTHEWS has been appointed Passenger Traffic Representative, Vancouver, succeeding H. Newton, promoted.

G. W. MURRELL, previously Passenger Agent, Bristol, England, has been appointed General Agent there, succeeding H. Healey, retired under the pension rules after 42 years of loyal and efficient service.

H. F. NELSON has been appointed District Passenger Agent, Regina, succeeding J. C. Pike, retired under the pension rules after more than 40 years of loyal and efficient service.

J. E. PAGE, previously Machinist, Alyth, has been appointed Shop Foreman, Red Deer, succeeding E. Emmerson.

W. H. PARKER, previously Assistant Coach Yard Foreman, Vancouver, has been appointed Repair Track Foreman there, succeeding J. R. Robertson.

R. G. PEGGIE, previously Shop Foreman, Lethbridge, has been appointed Shop Foreman, Winnipeg.

H. E. POWELL previously Assistant Superintendent, Ottawa, has been appointed Assistant Superintendent, Windsor, Ont., succeeding E. T. Truman, promoted.

J. R. ROBERTSON, previously Repair Track Foreman, Vancouver, has been appointed Special Representative for Carload Lumber Inspection for the Railway Association of Canada.

G. W. SCOTT has been appointed General Yardmaster, Windsor, Ont., succeeding Peter McNeil, retired on pension.

P. SPILSBURY has been appointed Passenger and Freight Agent, Bristol, England, succeeding G. W. Murrell, according to circular issued by J. C. Patteson, European General Manager.

J. R. STROTHER, previously Superintendent, Edmonton Division, has been appointed General Superintendent, New Brunswick District, Saint John, N.B., succeeding S. W. Crabbe, retired under the pension rules after more than 47 years of loyal and efficient service.

W. O. TATE, previously Boilermaker, has been appointed Boiler Foreman, Medicine Hat, succeeding W. H. Chambers.

E. T. TRUMAN, previously Assistant Superintendent, Windsor, Ont., has been appointed Superintendent, Edmonton Division, with headquarters at Edmonton, succeeding J. R. Strother, promoted.

G. E .WARNER, previously Auditor of Miscellaneous Accounts, has been appointed Auditor of Payrolls, succeeding D. E. Macdonald. Headquarters, Montreal.

NORMAN WOOLLEY, previously Shop Foreman, Winnipeg roundhouse, has been appointed General Air Brake Inspector, Winnipeg, succeeding O. Cochran.

Pennsylvania Railroad

W. A. GRAY has been appointed Travelling Freight Agent, with headquarters in Toronto, succeeding J. C. Willoughby, resigned.

Trans-Canada Air Lines

A. J. WARWICK, previously Executive Assistant to the Director of Communications, Post Office Department, has been appointed Director of Traffic Analysis, succeeding W. G. Scott, resigned to join the International Civil Aviation Organization.

Industries Using Diesels, Too

The swing from steam to Diesel-electric locomotives is by no means confined to the large railways, as industries throughout Canada are replacing many of their small steam locomotives by Diesel-electric units for plant switching purposes. In this connection, recent advice from Canadian General Electric Co., Ltd., is that in the recent past it has obtained orders from industries for Diesel-electric locomotives to a total of $900,000. This amount covers 14 switching locomotives and these economical units, with their pushbutton stopping and starting, are due to be placed in operation within the next six months. The largest order, for nine switching locomotives, was from Algoma Steel Corporation; seven of these are of 80-ton size, for standard gauge track, while the other two are 50-ton, narrow gauge units. Other purchasers are the National Harbours Board (for operation in Quebec, Que.); the Steel Co. of Canada, Ltd., Hamilton, Ont.; North American Cyanamid Co., Welland and Niagara Falls, Ont., and the Fraser Co., Edmundston, N.B. The first three mentioned of these firms are already owners of other General Electric Co. switchers.

Freight and Car Loadings

Railway revenue freight loadings in Canada in July were approximately 9,771,000 tons, compared with 8,159,000 tons in July last year and with 9,903,000 tons in June this year. On the basis of monthly average loadings in the years 1935-1939 being taken as 100, the index number for railway revenue freight loadings in July this year was 213.7, compared with 178.5 in July last year and with 235.1 in June this year.

Cars loaded with revenue freight on Canadian railways in July this year were approximately 332,000, compared with 307,000 in July last year and with 354,000 in June this year. The index number for car loadings in July this year was 164.2, compared with 151.7 in July last year and with 171.9 in June this year.

Loadings in Seven Months.—Following is the record of the tonnage of railway freight loaded in Canada in the first seven months of this year, and in the same part of all preceding years back to and including 1943: 1950, 60,823,000; 1949, 59,669,000; 1948, 61,858,000; 1947, 60,105,000; 1946, 53,700,000; 1945, 59,929,000; 1944, 60,596,000; 1943, 55,217,000.

Cars loaded with revenue freight in the first seven months of this year, and in the same part of all preceding years back to and including 1943, were: 1950, 2,199,000; 1949, 2,170,000; 1948, 2,264,000; 1947, 2,208,000; 1946, 2,027,000; 1945, 2,077,000; 1944, 2,093,000; 1943, 1,928,000.

Labrador Iron Railway

Reports to hand at press time indicate that construction is soon to begin on the railway to run north from Seven Islands, on the north shore of the Gulf of St. Lawrence, to the iron ore fields on the Labrador-Quebec border. Plans for construction of this 360-mile line were described in a preceding issue. An unconfirmed report states that a contract for the construction of the line has been awarded Cartier Construction Co., of Quebec, with which a number of other construction firms will be associated. It is also reported that airfields are to be built at intervals along the route, to service construction crews, and that work on a temporary dock at Seven Islands is proceeding.



Diesel-electric Locomotive in Algoma Steel Corp. Service

Mainly about Railway People

J. A. Argo, whose appointedment as Assistant General Freight Traffic Manager, C.P.R., with jurisdiction over the entire system and with headquarters at Montreal, was recorded in our August issue, was born at Norval Ont., July 18, 1892, and entered the company's service, November 1, 1911, as tapeman. After serving in various positions and on military service overseas in the Canadian Artillery, 1916-1918, he was appointed —1927, Office Assistant to Vice President, Montreal; 1930, Chief of Tariff Bureau, Montreal; 1939, Assistant General Freight Agent, Montreal; 1940, General Freight Agent, Montreal, and from 1945, at Toronto; 1946, Freight Traffic Manager, Central Region, Toronto.

J. M. Bartlett, who was recently appointed Special Passenger Representative in charge of passenger traffic at mountain resorts for the summer months, C.P.R., with headquarters at Banff, Alta., was born in Lyleton, Man., June 13, 1903, and entered the company's service October 19, 1922, as assistant agent, Birtle, Man. Subsequent to serving in a similar position at other points, and as ticket seller and ticket agent at various places, he was appointed:—1938, Soliciting Passenger Agent, Regina, Sask.; 1941, Travelling Passenger Agent, Regina; 1943, Travelling Passenger Agent, Vancouver; and, 1949, Ticket Agent, Moose Jaw, Sask.

P. E. Belley, who was recently appointed Roadmaster, Cochrane Division, C.N.R., Cochrane, Ont., was born at Chambord, Que., June 23, 1907 and began his career with the company as a water boy on the Saguenay Division in June, 1922. He held various positions on the Laurentian Division until 1939 when he was made section foreman there. In July, 1949, he became Assistant Roadmaster on the Levis Division.

E. P. Burns, who was recently appointed Assistant Superintendent, Cochrane Division, C.N.R., with headquarters at Cochrane, Ont., was born in Richmond, Que., October 10, 1919, and entered the railways' service on December 3, 1940, as assistant agent, St. Lawrence Division. Subsequent to serving as telegraph operator and train dispatcher on that division, he was appointed, in 1947, Assistant Chief Dispatcher, Parent, Que., and, later the same year, Assistant Superintendent there.

Colin T. Cameron, whose appointment as General Inspector of Shop Methods, C.N.R., Montreal, was recorded in our June issue, is a native of Scotland who commenced his railway career as a carman apprentice at Transcona, Man., in 1934 and became carman in 1940. He spent five years in the service of the Canadian Army during the war, and in the year following his return to the railway was appointed Assistant Foreman, Freight Car Shops, Transcona.

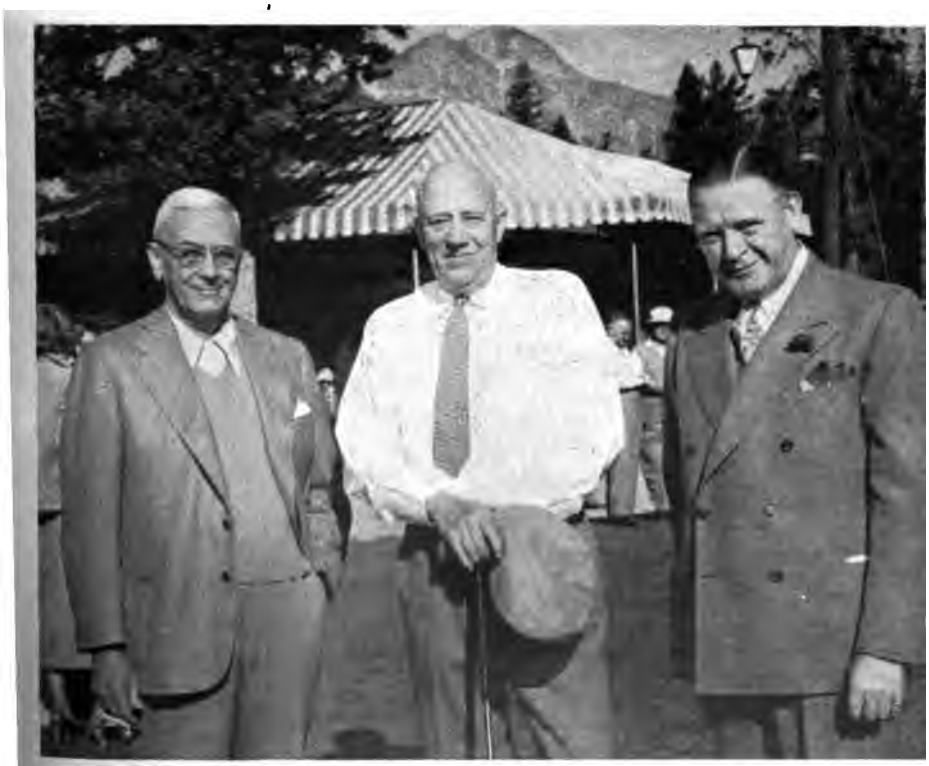


J. A. Argo,
Assistant General Freight Traffic Manager, C.N.R.

Joe (Johan) Conrad, who was recently appointed District Engineer, Manitoba District, C.N.R., Winnipeg, Man., was born at St. Moritz, Switzerland, February 10, 1902, and graduated from the University of Zurich in 1926 with a degree in civil engineering. In April, 1928, he joined C.N.R. as a rodman, and, serving in the British Columbia District, became inspector, Vancouver; instrumentman, Vancouver; Resident Engineer, Victoria; Assistant Bridge Engineer, Vancouver; Assistant District Engineer, Vancouver, and Division Engineer, Kamloops.

S. G. Daniel, whose appointment as Assistant Works Manager, Car Department, Point St. Charles Shops, C.N.R., Montreal, was recorded in our July issue, joined the company in 1932 and completed his apprenticeship in 1939. He became carman at London, Ont., the same year, and then returned to Montreal, where he was made schedule foreman in 1943. Subsequent promotions there were:— 1944, Assistant Foreman, Car Shops; 1947, Equipment Inspector; 1948, Chief Inspector; and, early this year, Designing Draftsman.

Cecil M. Dent, who was appointed General Auditor, Toronto, Hamilton and Buffalo Railway Co., Hamilton, Ont., June 1, was born at Carlisle, Ont., December 2, 1893, and entered the company's service January 13, 1908, as stenographer and clerk, office of General Superintendent and Chief Engineer. Subsequent to being timekeeper, terminal clerk and accountant, he was appointed:— August 1, 1918, chief clerk to General Manager; January 1, 1933, Chief Accountant and Chief of Personnel; August 1, 1941, Auditor. He was also Secretary, Pension Department, from 1922 to 1941. All of his service has been at Hamilton.



At the Opening of the 21st Annual Totem Pole Golf Tournament at Jasper Park Lodge, in the Canadian Rockies

Martin Clement, Chairman of the Board of Directors of the Pennsylvania Rd., appearing in the center in the above illustration, drove the first ball to open the tournament. J. A. Rogers, General Manager, Central Vermont Ry., and chairman of the tournament committee, appears, at the left, and Robert Sommerville, General Manager, Canadian National Rys. Hotels, at the right.



S. G. Daniel,
Works Manager, Car Department, C.N.R., Point St. Charles Shops, Montreal.

G. S. Depew, who recently retired as Supervisor of Transportation, Ontario District, C.P.R., Toronto, began his railway service as a car checker at Schreiber, Ont., in 1902. After working as operator, dispatcher and chief dispatcher along the North Shore he became Transportation Assistant at North Bay, Ont., in 1930. Later appointments were: 1931, Inspector of Transportation, Montreal; 1932, Transportation Assistant, Saint John, N.B.; 1938, Transportation Assistant, Toronton; and, 1941, the position he held on retirement.

W. J. Donlon, who was recently appointed Agent, Canadian Pacific Express Co., Regina, Sask., was born at Birtle, Man., January 3, 1892, and joined the C.P.R. in 1908 as a clerk at Minnedosa, Man. In 1912 he transferred to the C.P. Express at Saskatoon, Sask., serving variously as clerk, cashier and chief clerk until 1934 when he was named Agent there.

T. A. Donovan, whose appointment as Assistant to General Purchasing Agent, C.P.R., Montreal, was recorded in our June issue, was born in Canterbury, N.B., August 3, 1897, and entered the company's service on August 26, 1912, in a clerical capacity at Calgary. Subsequent to being Chief Clerk there and at Montreal, he was appointed, in 1930, Purchasing Agent, at Saint John, N.B., from 1939, at Toronto, and, from 1947, at Calgary, Alta.

F. A. Duff, who was recently appointed General Freight Agent, C.P.R., Montreal, joined the company in 1916 as call boy, Fairville, N.B., and, subsequent to serving in various clerical positions, was appointed:—1934, Travelling Freight Agent, Saint John, N.B., 1940, District Freight Agent, Ottawa, and, in 1945, at Hamilton Ont. He was made Division Freight Agent, Manitoba District, at Winnipeg, Man., in 1948.

J. V. Forrest, whose appointment as Assistant Superintendent, Winnipeg Terminals, C.P.R., Winnipeg, was recorded in our August issue, page 431, began his career with the company in the transportation department at Winnipeg in 1920. He was Chief Clerk there from 1942 to 1946, Special Representative to the Vice President the following three years, and moved to Moose Jaw, Sask., as Assistant Superintendent in June, 1949.

J. N. Fraine, B.Sc. (C.E.), whose appointment as Assistant to Vice President, Quebec Central Ry., C.P.R. subsidiary, was noted in our March issue, was born at Medicine Hat, Alta., April 9, 1912, and educated at the University of Manitoba, where he obtained his degree in 1939. He entered the C.P.R's service in 1927 and subsequent to serving in various positions, was appointed: 1941, Roadmaster, Fort William, Ont.; February, 1943, Assistant Superintendent, Lethbridge, Alta.; from November, 1943, at North Bay, Ont.; from August 1945, at Schreiber,



Cecil M. Dent,
General Auditor, Toronto, Hamilton and Buffalo Ry.

Ont.; and from November, 1945, of Bruce Division, Toronto; January 1, 1947, Superintendent, Laurentian Division, Montreal; and, later in 1947, General Manager, Quebec Central Ry.

Duncan M. George, whose appointment as Assistant to Vice President, Eastern Region, C.P.R., Toronto, was recorded in our March issue, was born at Alves, Morayshire, Scotland, January 4, 1894, and entered the company's service in August, 1913, as a stenographer, Freight Office, Toronto. There he became successively:—Secretary to the General Superintendent, Ontario District; Chief Clerk to the Superintendent, Bruce Division; Statistician, and Chief Clerk to the General Superintendent. In 1947 he was appointed Chief Clerk to the Chairman and President, Montreal, the office he held prior to his recent promotion. During World War I Mr. George served from 1915 to 1919 with the 48th Highlanders.

P. H. S. Godden, who was recently appointed Chief Clerk, Passenger Department, C.P.R., Los Angeles, Cal., entered C.P.R. service, April 1, 1918, as ticket clerk, city ticket office, and, subsequent to serving in a similar capacity in the steamship ticket office and again in the city ticket office, he was appointed, Jan. 1, 1936, Travelling Passenger Agent and Oct. 1, 1936, City Passenger Agent, all this service being at Vancouver.

W. S. Gourley, who was recently appointed Division Freight Agent, C.P.R., Montreal, was born at Carleton Place, Ont., March 17, 1900, and joined the company's Local Freight Office at Ottawa in 1917. Subsequent promotions, all in the Traffic Department, were:—1923, Freight Tariff Compiler, Montreal; 1928, Special Assignments, Boston, New York and Chicago; 1930, clerk, Division Freight Office, Montreal; 1936, Chief Clerk, District Freight Office, Ottawa; 1940, Travelling Freight Agent, Ottawa; and 1948, District Freight Agent, Ottawa. Mr. Gourley is a member of the Canadian Railway Club, The Montreal Board of Trade, The Traffic Club of Montreal, Kiwanis of Montreal and United Commercial Travellers of America.

E. M. Greaves, Supervisor of the C.N.R. Employment Bureau in Montreal, addressed students at the McGill Personnel Appraisal Institute recently, pointing out that all have an equal right to be employed in the tasks which are consonant with their capabilities. The day of the despotic business man who hired at will, and meted out rewards and punishments as he saw fit, is at an end, Mr. Greaves declared, adding: "There is no doubt that with the industrial revolution well advanced in its technological



J. V. Forrest,
Assistant Superintendent, Winnipeg Terminals, C.P.R.

sense, we have now embarked on what might well be called the personnel revolution." Maintaining that hiring should be devoid of personal bias, Mr. Greaves said that a properly trained employment staff capable of using standardized tests and conducting objective interviews, goes a long way toward ensuring that applicants are given a fair chance to obtain employment.

W. E. Griffiths, B.Sc., who was recently appointed Assistant Chief Engineer, Central Region, C.N.R., Toronto, was born in Ilford, Essex, England, and graduated from McGill University in 1931 with the B.Sc. Subsequent to being with a number of engineering concerns and as an engineer, City of Toronto, he entered C.N.R. service in 1937 as concrete inspector. Later, he was an instrumentman, Assistant Engineer, and Assistant Division Engineer, at Montreal. In 1944, he was appointed Division Engineer, Ottawa, and, in 1946, of Montreal Terminals and St. Jerome Divisions, Montreal; later in 1946, General Maintenance Inspector, Montreal. He became Engineer of Track there in 1947.

N. R. Hay, whose appointment as Locomotive Foreman, C.P.R., Ottawa, was recorded in our August issue, was born at Harvey, N.B., Jan. 27, 1896, and entered the company's service Dec., 1909, as call boy, McAdam, N.B. Subsequent to serving as machinist apprentice, machinist, fitter, machine shop foreman, and night foreman, and on military service with the 1st Railway Construction Corps, C.E.F., July, 1916-April, 1919, he was appointed:—1926, Assistant Locomotive Foreman, Smiths Falls, Ont.; 1928, Locomotive Foreman, White River, Ont.; 1928, Locomotive Foreman, Farnham, Que.; 1929, Locomotive Foreman, Chapleau, Ont.; 1930, Locomotive Foreman, Smiths Falls; 1938, Division Master Mechanic, Smith Falls; 1944, Assistant Foreman, Lambton, Ont.



R. B. Jones,
who retired under the pension regulations, October 1, from the position of Assistant Chief Engineer, C.P.R.

F. K. Hollyman, whose appointment as Assistant General Freight Traffic Manager, C.P.R., Montreal, was recorded in our June issue, began his railway career with the company at Toronto in 1917. He became District Freight Agent at London in 1945, Division Freight Agent at Montreal in 1947, and General Freight Agent at Toronto in 1948. In 1949 Mr. Hollyman became Assistant Freight Traffic Manager, Sales and Service, Montreal, with supervision over Quebec and New Brunswick districts.

A. Holmstrom, who was recently appointed Roadmaster, C.P.R., Kenora, Ont., succeeding T. D. Ruggles, retired on pension, joined the company in 1916. He was Roadmaster at Virden and Minnedosa, Man., at Broadview, Sask., and at Ignace, Ont., previous to his present appointment.



H. W. Lambert,
Inspector, Investigation Department, C.P.R., Fort William, Ont. (See June issue, pg. 311).

H. W. Howard, who was recently appointed Superintendent of Traffic, Eastern Region, Communications Department, C.P.R., was born at Toronto, May 29, 1911, and began his career with the company in June, 1928, as Check Clerk, Toronto Operating Room. Subsequent appointments, all in the Communications Dept., were: 1930, Operator, Assistant Timekeeper, Toronto, and Operator, Toronto, Hamilton and Windsor; 1938, Branch Agent, Toronto; 1941, Chief Clerk, Western Lines; and 1946, Inspector, Manitoba District. Mr. Howard served in World War II as Instructor with the Canadian Active Army.

F. A. Hunt, who was recently named Division Engineer, C.N.R., Capreol, Ont., was born in Wentworth Co., Ont., March 18, 1918, and educated at Brantford, Ont., and Queens University, Kingston, Ont. He joined the company's Work Equipment Department at Toronto in May, 1940, and



J. B. MacPherson,
Supervisor of Transportation, C.P.R., Saint John, N.B.

became Inspector, Maintenance of Way Department there in August of the ame year. From July, 1942, to April, 1946, he served with the Royal Canadian Engineers, completing service as Lieutenant, and returned to C.N.R. as Assistant Engineer, Toronto. He held a similar position with the Niagara, St. Catharines and Toronto Railway from April, 1948, to February, 1949, when he rejoined C.N.R. as Assistant Division Engineer at Belleville, Ont.

J. R. Johnston, whose appointment as Inspector, Investigation Department, Pacific Region, C.P.R., Vancouver, was noted in our June issue, and who was previously Investigator at Calgary for the Alberta District, has been with the company since 1927, following service with the R.N.W.M.P. He started at Winnipeg, was master-at-arms on the Empress of Ruusia early in World War II, and served at Fort William, Ont., before his Calgary appointment. Inspector Johnston is President of the R.N.W.M.P. Veterans Association.

R. B. Jones retired under the pension regulations, October 1, from the position of Assistant Chief Engineer, C.P.R. He was born in Glasgow, Scotland, in 1885, and entered railway service as an apprentice with the North British Ry. Subsequent to serving as Assistant Engineer, William Beardmore & Co., Ltd., Dalmuir, Scotland, he entered Grand Trunk Ry. service as draftsman in 1910, and, after being transitman and Building Inspector with that company, joined the C.P.R. as draftsman in 1913, and, later on, was transitman. From 1915 to 1919, he was on military service overseas with the Canadian Field Artillery, being gunner, sergeant and Lieutenant, successively, and on demobilization, returned to the company as Assistant Engineer, Chief Engineer's Office, Montreal, and was appointed

Engineer of Track there in 1939 and Assistant Chief Engineer January 1, 1946.

Fred C. Love, who recently retired as Agent, Canadian Pacific Express, Regina, under the pension rules, was with the company 48 years. He went to Regina in 1945 after serving 31 years as agent at Fort William, Ont. Prior to that he had served at Swift Current, Sask., and Kenora, Ont.

James Lundie, B.Sc. (C.E.), who was recently appointed Assistant District Engineer, Ontario District, C.P.R., Toronto, was born at St. Thomas, Ont., April 10, 1907, and educated at the University of Saskatchewan, obtaining his degree there in 1930. He entered the company's service, May 23, 1928, as transitman, Moose Jaw, Sask., and was appointed:—1939, Bridge and Building Master, Regina, Sask.; 1943, Division Engineer, Moose Jaw, Sask.; in 1944 at Schreiber, Ont., and in 1948 at London, Ont. He has a great deal of flying experience and holds a Canadian commercial pilot's license.

J. B. MacPherson, whose appointment as Supervisor of Transportation, C.P.R., Saint John, N.B., was recorded in our August issue, page 431, entered the company's service July 1, 1925, as relieving operator, Smiths Falls, Ont. Subsequent to serving as operator and clerk, he was appointed:—1937, Passenger Car Distributor, Montreal; 1941, Assistant Superintendent, Laurentian Division; 1942, Travelling Car Service Agent, Eastern Lines, Toronto; August, 1942, Assistant Superintendent, Lodon, Ont.; in April 1946, at Smiths Falls, Ont.; in October, 1946, of Bruce Division, Toronto, and in 1948, of Trenton Division, Toronto.—In 1943, he enlisted for military service and was a major in No. 1 Canadian Railway Operating Group, R.C.E.

B. J. Mahan, who was recently appointed Assistant Superintendent, Bruce Division, C.P.R., Toronto, began



G. W. Miller,
Engineer, Maintenance of Way, Eastern Region, C.P.R. (See September issue, pg. 496.)



M. Parr,
Chief of Tariff Bureau, Canadian National Rys.—Grand Trunk Western Rd., Chicago. (See August issue, pg. 431.)

his career with the company as an operator at Montreal Terminals in 1916. Subsequently he became there: 1917, Traffic Supervisor; 1928, Chief Traffic Supervisor; 1948, Assistant Superintendent. In 1949 he served briefly as Assistant Superintendent on the Bruce Division before going to Sudbury, Ont., in January of 1950.

C. F. Needham, formerly Assistant to the Vice President and General Manager, Central Region, C.N.R., Toronto, died on May 23 at St. Joseph's Hospital there. He was born at London, Ont., in 1877, and entered the company and its predecessors' service in 1898 as clerk, Motive Power Department, Toronto. Subsequent to serving in other clerical capacities, he was appointed:—1918, Assistant to the Vice President, Motive Power and Car Equipment, Montreal; 1923, acting Assistant to the Operating Manager, Montreal; later in 1923, Assistant to the General Manager, Central Region, Toronto; 1934, Assistant to the Vice President and General Manager, Central Region, Toronto, the position he held on retirement in 1943, when he was appointed Associate Director of National Selective Service (Civilian). Throughout his career, Mr. Needham was a close student of labor problems.

W. J. Price, who was recently appointed Superintendent, Calgary Division, C.P.R., Calgary Alta., was a trainman and conductor at Minnedosa, Man., from 1909 to 1944, when he was promoted acting Assistant Superintendent. He has been since then Assistant Superintendent at Souris, Man., Winnipeg, Kenora, Ont., and Moose Jaw, Sask., and Superintendent at Brandon, Man.

J. Pullar, who was recently appointed Building Engineer, Atlantic Region, C.N.R., Moncton, N.B., was born at Dundee, Scotland, and entered the employ of the railway as a draftsman in the engineering department at Moncton in June, 1915. From May, 1918, to July, 1919, he was on military service, resuming duty in March, 1920, as Assistant Engineer, and was appointed Architect at Moncton in 1949. Mr. Pullar is a member of the Engineering Institute of Canada and of the Professional Engineers of New Brunswick.

C. S. Pushie, whose retirement as Superintendent, Operation Department, New Glasgow Division, C.N.R., is recorded in our current issue, was born at New Glasgow, N.S., on August 12, 1885. He began his railway career as a clerk in the operating department at New Glasgow in 1903 and thereafter held the following positions: 1904, secretary and clerk to the Divisional Superintendent, New Glasgow; 1915, Chief Clerk, New Glasgow; 1917, Assistant Chief Clerk to the General Superintendent, Moncton, N.B.; 1918, supervisor of Work Service Equipment, Moncton; 1920, Operating Inspector, Moncton; 1921, Chief Clerk to the General Superintendent, Moncton; 1923, Relieving Superintendent, Atlantic Region; 1924, Acting Terminal Agent, Saint John, N.B.; 1927, Assistant Superintendent, Bridgewater, N.S.; 1938, Superintendent, Halifax Division; and, 1943, the position he held on retirement.

Charles Reid, who was recently appointed Superintendent, Regina Division, C.P.R., Regina, Sask., was born in Blairgowrie, Scotland, in 1890, and entered the company's service in 1908 as wiper. Subsequent to being fireman and locomotive engineer, he was appointed Assistant Superintendent, Kenora, Ont., in 1940; Superintendent, Moose Jaw, Sask., in 1942, and of Portage Division, Winnipeg, in 1945. He was made superintendent, Revelstoke Division, Revelstoke, B.C., in 1948.



Clarence S. Pushie,
who has retired from the position of Superintendent, New Glasgow Division, C.N.R., after many years of faithful service. He had railway service of 47 years and his father had railway service of 53 years, a total of a century for father and son.

N. B. Roberts, who was recently appointed Assistant Engineer, Office of Engineer, Maintenance of Way, Eastern Region, C.P.R., Toronto, began his service with the company in 1937 as transitman at Montreal. Subsequently he became: 1938, transitman, Smith Falls, Ont.; 1940 Assistant Engineer, Vice President and General Manager's Office, Toronto; 1941, Assistant Engineer, North Bay, Ont., and Division Engineer, Schreiber, Ont.; 1944, Division Engineer, Bruce Division, Toronto; and, 1948, Assistant District Engineer, Ontario District.

Paul D. Salmon, District Freight Agent, C.P.R., St. Louis, Mo., died there on September 6 at the age of 55. He was born at Indianapolis, Ind., and joined the C.P.R. at that city in 1922, serving there until 1937, when he was transfered to Memphis, Tenn., as District Freight Agent. In 1948 he was appointed to the position he held at his death. During World War I Mr. Salmon served in the United States Army Air Corps, and he was a member of the American Legion. He was also a member of the St. Louis Traffic Club and Illinois traffic clubs at Springfield, Danville, and Decatur.

G. E. Smith, who was recently appointed Freight Traffic Manager, central Region, C.N.R., Toronto, was born at Grand Valley, Ont., February 15, 1890, and entered Canadian National Rys., predecessor company service as an operator in October, 1907. Subsequent to serving as operator and agent at various points, he received appointments in Canadian National Rys. service as follows:— November, 1916, Soliciting Freight Agent, Toronto; May, 1917, Travelling Freight Agent, Toronto; January, 1930, District Freight Agent, Toronto; January, 1940, Division Freight Agent, North Bay, Ont.; November, 1940, Division Freight Agent, Toronto; 1946, General Freight Agent, Toronto.



James Pullar,
Building Engineer, Atlantic Region, C.N.R.

J. W. Stewart, whose appointment as Assistant to General Superintendent, Quebec District, C.P.R., Montreal, was recorded in our June issue, was born at Carleton Place, Ont., July 13, 1902, and entered the company's service, March 16, 1921, as stenographer, Smith Falls, Ont. From 1926, he was stationed at Montreal and was, successively, stenographer and clerk, General Superintendent's Office, secretary to special committee on revision of train rules, assistant chief clerk, and Chief Clerk, Park Avenue Station, and to the General Superintendent, Quebec District, until December, 1944, when he was appointed Assistant Superintendent, Trenton Division, Toronto. He became Assistant Superintendent at Ottawa in 1946, and later at Brownville Jct., Me.

C. A. Stinson, whose appointment as Night Chief Dispatcher, Trenton and Bruce divisions, C.P.R., Toronto, was recorded in our March issue, was born at Maberly, Ont., October 1, 1893. He joined the company in February, 1911, serving at various points. In 1918 he became telegrapher and dispatcher at Toronto and from 1944 until his recent promotion he served as Relieving Night Chief there.

Marshall D. Thompson, who recently retired as General Superintendent, Saskatchewan District, C.N.R., Saskatoon, began his 49-year railroading career with the company in the Transportation Department at Stratford, Ont., in 1901. Learning telegraphy, he became operator and dispatcher there and in 1908 was transferred West where he held the following positions: 1908, Dispatcher, Melville, Sask.; 1909, Chief Dispatcher, Wainwright, Alta.; 1917, Assistant Superintendent and 1920, Superintendent, Regina, Sask.; 1923, Superintendent, Edmonton, Alta.; 1929, Superintendent, Saskatoon, Sask.; 1941, Superintendent, Port Arthur Division; and 1944, the position he held on retirement.

O. A. Trudeau, who was recently appointed Assistant General Passenger Traffic Manager, C.N.R., Montreal, was born at Waterloo, Ont., October 9, 1888, and entered the company's service in February, 1906, as clerk, Auditor of Passenger Accounts. Subsequent to serving in other capacities, he was appointed:—1933, Special Representative, Passenger Traffic Department; 1935, District Passenger Agent; 1942, General Passenger Agent; 1947, Assistant Passenger Traffic Manager, all his service having been at Montreal. Mr. Trudeau is Vice-President of the St. Lawrence Kiwanis Club of Montreal, and a director of La Chambre de Commerce de Montreal, of the Montreal Tourist and Convention Bureau and of the Antiquarian and Numismatic Society of Montreal. He is also a former director of the Traffic Club of Montreal, a member of the Canadian Railway Club, The Canadian Railroad Historical Association, The Societe Historique de Montreal, The Skol Club of North America (Montreal Chapter) and the St. Denis Club, as well as other Canadian and international associations. He has served on many war and social work activities, among others, as Provincial vice chairman of the War Savings Stamps Campaign, Chairman of the Employees' Section, French Federated Charities, and Vice President of the Industrial Section, Canadian Red Cross Montreal Campaign.



M. J. Wolfe,
Assistant Superintendent, C.P.R., Moose Jaw. (See August issue, pg. 431.)

R. C. Vaughan, C.M.G., previously Chairman and President, C.N.R., has been elected to the directorate of Canada Iron Foundries, Ltd.

F. M. Ward, who has been appointed Superintendent, Operation Department, New Glasgow Division, C.N.R., was born at Chatham Junction, N.B., and joined the railway service as an operator at Chatham Junction in 1912, later serving at Harcourt and Campbellton, N.B. Subsequent positions held by him were: Train Dispatcher, Newcastle, N.B., 1915, Campbellton, 1916, Moncton, N.B., 1921, and Campbellton, 1929; Chief Train Dispatcher, Campbellton, 1939; Assistant Superintendent, Campbellton, 1940; and Assistant Superintendent, New Glasgow, 1943.

L. E. Warren, formerly Signal Supervisor, C.N.R., Moncton, whose recent retirement was marked by the presentation of a government bond by T. L. Landers, Regional Chief Engineer, was born at East Luther, Dufferin County, Ont. He proceeded to Moncton in 1913 with the Hall Signal Co. in connection with the installation of the first telephone dispatching system of the then Canadian Government Rys. between Moncton and Saint John. In 1914 he was employed by Union Switch and Signal Co. in the installation of the first automatic block signal system between Saint John and Hampton. He

joined the railway service as a maintainer at Moncton in August, 1915, and was promoted to Signal Foreman in August, 1916. In November, 1937, he was made Signal Supervisor at Moncton, which position he held up to the time of his retirement, after 35 years of service.

William T. Wilson, who was recently appointed Special Assistant, Department of Personnel, C.N.R., Montreal, was born at Ottawa, May 12, 1905. Previous positions held by him were: 1923-1925, junior, W. H. Dwyer, Ltd., Ottawa; 1925-1930, with Thomas and Wilson, Investment Dealers, Montreal; 1931-1940, Vice President (Petroleum Products), Benzoline Corp. Ltd., Ottawa; 1941-1944, Chief Treasury offices, Wartime Prices and Trade Board and National Housing Administration; 1944-1946, Chief Treasury office, Department of National Health and Welfare; 1946-1950, Deputy Chairman and Comptroller, Wartime Prices and Trade Board and Emergency Import Control Board; 1946-1950, Director, Canadian Sugar Stabilization Corp. Ltd.; and, 1947-1950, Vice President and Director, Commodity Prices Stabilization Corp. Ltd., Ottawa.

H. R. Worth, who was recently apponted Supervisor of Transportation, Ontario District, C.P.R., Toronto, began his railway career as Assistant Agent at Cobourg, Ont., in 1915. Subsequent service was: 1917-1942, Operator, Cobourg, St. Thomas and London, Ont.; 1942, Dispatcher, Schreiber, Ont. and Night Dispatcher, Toronto; later, Acting Supervisor, Saint John, N.B., Assistant Superintendent, Farnham, Que.; and, 1945, Supervisor, Saint John.

Birthdays of Transportation Men

October 16 - November 15

Many happy returns of the day to:—

F. E. BAILEY, Superintendent, Canadian Pacific Ry., Brownville Jct., Maine, born at Bath, N.H., Oct. 19, 1893.

E. R. BATTLEY, Chief of Motive Power and Car Equipment, Canadian National Rys., Montreal, born at Stratford, Ont., Oct. 21, 1886.

J. A. BERGERON, Assistant Bridge and Building Master, C.N.R., Cochrane, Ont., born at St. Agapit, Lotbiniere County, Que., October 25, 1904.

P. W. CALDWELL, Assistant Superintendent, C.N.R., Campbellton, N.B., born at Westchester, N.S, Nov. 7, 1890.

D. E. CARRIERE, Division Engineer, C.N.R., St. Thomas, Ont., born at Grand Bend, Ont., Oct. 18, 1887.

CAPT. R. A. CLARKE, General Manager, C.N. (West Indies), Steamships, Ltd., born at Brigus, Nfld., October 23, 1893.

J. D. CLOUTIER, Division Master Mechanic, C.N.R., Quebec, Que., born at St. David de L'Auberiviere, Que., Oct. 20, 1896.

J. A. COTE, Purchasing Agent, Quebec Power Co. and Quebec Railway, Light and Power Co., born at Quebec, Que., November 13, 1887.

ALAN COUCH, Superintendent of Equipment, Winnipeg Electric Co., born at Boscastle, Cornwall, England, Oct. 27, 1899.

W. O. CUDWORTH, formerly Special Engineer, C.P.R., Toronto, now at Sharbot Lake, Ont., born at Darlington, England, October 25, 1885.

E. C. P. CUSHING, Purchasing Agent, C.P.R., Winnipeg, born at Ottawa, Nov. 13, 1886.

H. L. DAVIS, Canadian Traffic Representative, Chicago and Northwestern Railway Co., Toronto, born at Winnipeg, Oct. 20, 1896.

R. E. DENNIS, Roadmaster, C.N.R., Brandon, Man., born at Swan River, Man., Oct. 16, 1916.

J. D. DUNCAN, Chief Train Dispatcher, C.P.R., Brandon, Man., born at Falkirk, Scotland, Oct. 29, 1895.

JOHN EATON, O.B.E., formerly General Purchasing Agent, C.P.R., Montreal, born on Nov. 7, 1889.

W. FORSYTH, Superintendent of Automotive Equipment, Toronto Transportation Commission, born at Edinburgh, Scotland, Nov. 4, 1891.

W. H. FURLONG, K.C., Chairman of Board and General Manager, Sandwich, Windsor & Amherstburg Ry. Co., born in Walpole Township, Haldimand County, Ont., Nov. 12, 1889.

G. C. GOW, Car Foreman, C.P.R., Ignace, Ont., born at Vancouver, Nov. 5, 1916.

R. B. GRAHAM, General Superintendent, Atlantic Region, C.N.R., Moncton, N.B., born at Main River, N.B., Oct. 19, 1892.

HENRY C. GIVINS, Superintendent of Railway Maintenance, B.C.E.R. Co., born at London, Ont., October 26, 1910.

JAMES GRAY, District Car Foreman, C.N.R., Toronto, born at Glasgow, Scotland, November 7, 1893.

C. N. HAM, Traffic Manager, C.P. Express Co., Toronto, born at Winnipeg, Oct. 21, 1884.

T. P. HARRIS, General Purchasing Agent, C.N.R., Montreal, born at Bristol, England, Oct. 26, 1896.

W. J. HOLLOWAY, Division Master Mechanic, C.P.R., Edmonton, Alta., born in Northamptonshire, England, Nov. 11, 1892.

H. H. HOLMES, Supervisor of Station Service, C.N.R., Toronto, born at High Wycombe, Bucks., England, November 7, 1890.

W. F. IRWIN, Director of Development and Research, Toronto Transportation Commission, born at Brampton, Ont., November 14, 1896.

J. P. JOHNSON, Vice President, Western Region, C.N.R., Winnipeg, born at Castlebar, Arthabaska County, Que., Oct. 21, 1889.

DOUGLAS LAWSON, Chief Train Dispatcher, C.P.R., Kenora, Ont., born at Dominion City, Man., Nov. 2, 1901.

WM. A. McDONALD, General Superintendent, Sleeping and Dining Car Dept., C.N.R., Winnipeg, born at Greenvale, P.E.I., Nov. 9, 1892.

A. F. MacDOUGALL, Assistant Superintendent, Terminals, C.N.R., Halifax, N.S., born at Christmas Island, N.S., Oct. 26, 1887.

F. N. McKENZIE, General Passenger Agent, C.N.R., Winnipeg, born at Morden, Man., October 30, 1900.

J. L. McLEAN, Vice President and Chief Financial Officer, British Columbia Electric Ry. Co. Ltd., Vancouver, born at Palo Alto, Cal., Oct. 22, 1902.

A. E. McMASTER, Port Manager, National Harbours Board, Port of Vancouver, born at Perth, Ont., Oct. 22, 1885.

W. J. McPHERSON, formerly Assistant Superintendent, C.P.R., Revelstoke, B.C., born at Ottawa, Nov. 1, 1881.

ERNEST MARTIN, General Car Foreman, C.P.R., Ogden Shops, Calgary, Alta., born at London, England, Oct. 31, 1887.

G. E. MAYNE, Superintendent of Montreal Terminals, C.P.R., born at Actinolite, Ont., Oct. 22, 1901.

A. C. MELANSON, Works Manager, Motive Power and Car Shops, C.N.R., Montreal, born at Scoudouc, N.B., Oct. 28, 1893.

J. W. MILLAR, B.A., B.A.Sc. (Mech.), Chief Mechanical Officer, Ontario Northland Ry., North Bay, born in Scotland, Oct. 25, 1904.

A. L. S. MUNRO, formerly Division Freight Agent, C.N.R., Stratford, Ont., born at Hamilton, Ont., Nov. 10, 1878.

J. F. NEILD, Electrical Engineer, Toronto Transportation Commission, and Secretary, Canadian Transit Association, born at Brockville, Ont., Oct. 17, 1880.

H. J. NEVIN, General Passenger Agent, Central Region, C.N.R., Montreal, born there, Oct. 25, 1895.

C. E. POTTS, Assistant General Manager, C.N.R. Express Dept., Montreal, born at Toronto, Oct. 20, 1892.

A. C. PRICE, Bridge and Building Master, Bruce Division, C.P.R., Toronto, born at Ottawa, Nov. 6, 1899.

JOHN PULLEN, General Freight Traffic Manager, C.N.R., Montreal, born at Oakpark, Ill., Nov. 6, 1890.

ARTHUR RANDLES, C.B.E., M.S.M., Director and General Passenger Traffic Manager, Cunard Donaldson, Ltd., Montreal, born in England, Nov. 3, 1890.

CAPT. NORMAN J. REOCH, General Manager, Canada Steamship Lines, Ltd., Montreal, born at Nottawa, Ont., Oct. 27, 1906.

W. C. E. ROBINSON, M.E.I.C., District Engineer, Ontario District, C.P.R., Toronto, born at Coldwater, Ont., Nov. 12, 1891.

E. A. RYDER, Traffic Manager, Atlantic Region, C.N.R., Moncton, N.B., born at Havelock, N.B., Oct. 20, 1899.

LIEUT.-COL. C. C. STIBBARD, D.S.O., Director of Operation, Board of Transport Commissioners for Canada, Ottawa, born in Essex, England, Oct. 19, 1889.

C. E. STOCKDILL, formerly Assistant to Vice President, C.P.R. Co., now residing at Victoria, B.C., born at London, Ont., Oct. 25, 1881.

H. C. TAYLOR, General Superintendent, Saskatchewan District, C.P.R., Moose Jaw, born at Wingham, Ont., Nov. 5, 1887.

ROWLAND E. TAYLOR, General Superintendent of Transportation, C.P.R., Montreal, born Nov. 12, 1892.

AUGUST THOMAS, formerly General Foreman, Weston Shops, C.P.R., Winnipeg, now at Vancouver, born at Milton, N.D., Oct. 21, 1896.

G. R. THOMAS, formerly Road Foreman of Engines, C.P.R., Penticton, B.C., born at Neath, South Wales, Oct. 23, 1887.

WALTER S. THOMPSON, C.B.E., formerly Director Public Relations, C.N.R., born at Newcastle-on-Tyne, England, Oct. 22, 1886.

JAMES T. TURNER, Jr., B.Sc., Acting Manager, Transportation Shops, B.C.E.R. Co., born at Moose Jaw, Sask., Nov. 12, 1912.

A. L. WALTON, Chief Material Inspector, C.N.R., Montreal, born at London, Ont., Oct. 16, 1891.

J. T. WHITEFORD, Manager, Passenger Service Bureau, C.N.R., Montreal, born at Paisley, Scotland, Oct. 29, 1899.

H. E. WHITTENBERGER, formerly General Manager, Grand Trunk Western Lines, C.N.R., Detroit, Mich., now at Overland Park, Kan., born at Peru, Indiana, Nov. 9, 1862.

FRED WOOLEY, Car Foreman, C.P.R., Moose Jaw, Sask., born at Barrow-in-Furness, England, Nov. 9, 1901.

R. H. YARNELL, Purchasing Agent, C.P.R., Toronto, born at Dublin, Ireland, Nov. 2, 1891.

Materials Handling Society Formed

An organization with the name "Materials Handling Society" has been formed in Montreal, with the object of lowering cost of distribution and thus providing lower prices for consumers. The aim is to do this by promoting methodical ways of material handling by all large firms in Montreal and district, and to promote plant efficiency.

D. A. Gillespie, of Northern Electric Co., is Chairman, with J. G. Pope, also of Northern Electric Co., as Secretary. The committee chairmen are:—Public Relations, M. Hayes, of Rudel Machinery Co., and William Sherman, of Steinberg's Wholesale Groceterias, Ltd.; membership, E. B. Jubien, of Dominion Textile Co., and W. G. Milford, of Canadian Fairbanks-Morse Co., constitutional, T. J. Christie, of H. C. Burton Co., and Col. E. D. Ellwood, Commandant, No. 25, Central Ordnance Depot, Longue Pointe.

Traffic Club of Hamilton

The Traffic Club of Hamilton is observing its 25th Silver Jubilee this year, and will hold a Jubilee Dinner in December.

1948 Statistics

(Continued from page 548)

630,847 for transfer to the general balance sheet.

The income account figures for 1948 and each of the five preceding years appear in the table given on pg. 548. It is seen that in the three years 1943-1945 there were substantial credit balances for transfer to the general balance sheet, followed by debit balances in 1946, 1947 and 1948.



Features of Jet Aircraft Operation

While airport operations with jet-powered planes present some problems which are not met with in propeller-powered aircraft operations, they should present no great difficulties, according to the Avro Canada U.S. representative, R. Dixon Speas.

R. Dixon Speas, United States Representative, A. V. Roe Canada, Ltd., delivered an address to the Massachusetts Institute of Technology, at Boston, September 12, and the following are extracts therefrom.

The jet transport plane does not require any great changed methods of operating transport aircraft at airports, although some new problems are presented. This was the conclusion expressed by Mr. Speas in his paper, which was based on the year's operating experience so far on the Avro Canada Jetliner, America's first and only jet transport.

"It appears reasonable to say that the Jetliner's flight tests have served to 'de-freak' the jet transport as an air transport aircraft," Mr. Speas said. "I do not mean to say that there are no unique problems to be met with in respect to airport operation of jet aircraft but I do believe that these problems are no greater than those of reciprocating-powered, propeller-driven aircraft in service today, and it is apparent that such problems as do exist are readily solvable."

Mr. Speas said that the Jetliner required no unusual length of runway and that any major airport in the United States could accommodate it. Compared with the three U.S. four-engined aircraft introduced into commercial operation since the war, the Jetliner used somewhere between the shorter distance required by one four-engined transport and the longer distance required by the other two.

Every aircraft flying today is in effect a jet aircraft in so far as the so-called "blast" problem is concerned, Mr. Speas thought. He added that it was a common sight to see a crowd of spectators or passengers being blasted by a not-too-careful pilot maneuvering his propeller-driven aircraft in close quarters. In fact blast fences are currently in use for propeller-driven aircraft at several major commercial terminals. Mr. Speas declared that the blast problem with jet transports would be no greater than that with present-day aircraft. The many spectators at Idlewild who had crowded close to see the Jetliner when it had flown there from Toronto in less than an hour were greatly surprised by the lack of any substantial blast from the engines.

A quotation was used by Mr. Speas from the May issue of the "Bendix News Reporter":—"Is the blast hot? —The heat generated by jet engines and wide berth which must be given the tail pipes in ground operation has been given much emphasis by those who claim that airport loading ramps will have to be redesigned before jet transports can be used commercially. The heat waves that are clearly visible behind the engines are proof enough that heat exists and close-up rear inspection of the engine in operation is not recommended procedure. However, we suffered no discomfort when the airplane was swung around in front of us prior to taxiing out for a flight demonstration. In fact, considering the distance we were from the ship, we would have noticed it more had she been churning up "prop-wash."

From the operation of the Jetliner and the twin-jet CF-100 fighter at Malton Airport, Mr. Speas concluded that for normal taxiing, take-off and landing there was no apparent erosion effect on the runways from the jet blasts. Such an effect, however, would depend upon the height of the jet exhaust from the ground.

In those areas where full power engine run-ups are operated, Mr. Speas said there could result gouging out of asphalt and other black-top surfaces. For these particular positions, it would appear that extensive maintenance in the form of patching would be necessary unless concrete surfaces are used. Mr. Speas thought that some surfacing processes towards providing a harder surface top may probably condition the asphalt or blacktop without the necessity for heavy maintenance. Further experience might also indicate need for surface hardening of concrete at the par-



Progress in Canadian Aviation Equipment during the Past Decade

The rapid strides in aircraft development are emphasized by the comparison of commercial airliners afforded by the illustration above. The main illustration shows the large 4-engine pressurized North Star of the type now flying the Trans-Canada Air Lines transcontinental routes, while insert is a twin engine Lockheed 14, of the type used when the company inaugurated its transcontinental air service in 1939. The North Star, when fully loaded with 40 passengers, cargo and fuel, weighs 40 tons, more than four times as much as the Lockheed 14.

ticular location where high power operation of jets takes place.

Mr. Speas said that elimination of the runway run-up period for jet transports should speed up airport traffic. He did not think that for normal airport operation there would be any particular need for towing jet transports to the end of the runway to conserve fuel. Modern airline practice, he said, does not count the weight of the aircraft at the ramp but rather makes allowances for the amount of fuel consumed during taxiing and take-off run before the wheels leave the ground. With today's parallel runway airports and greatly improved traffic control clearances, he did not see any need for the end of runway holding.

There were no particularly unique problems with respect to passenger and cargo loading, he said. Since the pure jet aircraft has no propellers, it can be put closer to the ground for ease of servicing and maintenance, he noted. As to refuelling, higher capacity fuel storage facilities would probably have to be made available for jet-powered aircraft.

Canada-France Air Transport Agreement

A bilateral agreement for air services between Canada and the Republic of France was signed at the beginning of August in Ottawa. The Hon. Lionel Chevrier, Minister of Transport, signed on behalf of Canada, while Mr. Jean Basdevant, Charge d'Affaires ad interim of the French Embassy in Ottawa, signed on behalf of his government.

The agreement provides for direct carriage of traffic between Canada and France. Montreal and Paris have been designated as the airports at which France and Canada may exercise their respective traffic rights.

It is understood that Air France, the airline which will be designated by the French Government to operate the Paris-Montreal route, has already opened an office in the new International Aviation Building in Montreal and plans to inaugurate commercial flights in the early autumn of this year. Trans-Canada Airlines, which will be designated as the Canadian airline to operate on this route, is surveying the possibility of initiating operations some time prior to the main summer traffic season of 1951.

The inauguration of these air routes will serve to cement the good relations which have existed between Canada and the Republic of France for so many years.

Air Personals

A. J. Warwick, M.B.E., who was recently appointed Director of Traffic Analysis, T.C.A., succeeding W. G. Scott, resigned to join the I.CA.O., is a native of Camp Morton, Man., and a B.A. of the University of Manitoba. Following association with the Sovereign Life Assurance Co., Winnipeg, he joined the Post Office Department Air Mail Division in 1938. During World War II Mr. Warwick served with the Canadian Postal Corps, in 1943 becoming Canadian Postal Liaison Officer at Washington and in 1944 being posted overseas to become Assistant Director, Armed Forces Postal Services with Canadian army headquarters in the United Kingdom. He retired from the service in 1946 with the rank of Major and was awarded the M.B.E.



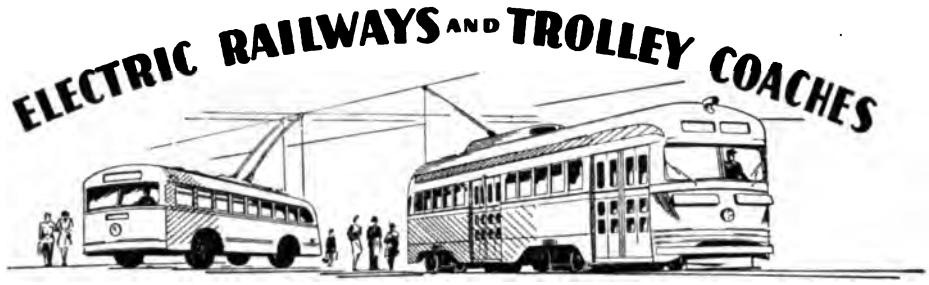
A. J. Warwick, M.B.E.,
Director of Traffic Analysis, Trans-Canada Air Lines

Civil Aviation Results, 1949

Figures provided jointly by the Dominion Bureau of Statistics, Transportation Division, and the Air Transport Board, Economics Division, in a preliminary report on civil aviation in Canada in 1949, record that the scheduled Canadian carriers (Canadian Pacific Air Lines, Maritime Central, Trans-Canada, Central Northern and Queen Charlotte) earned total operating revenues of $34,566,124 last year, compared with $28,005,903 in 1948; that their total operating expenses were $35,066,914, compared with $28,917,426 in 1948, leaving an operating deficit of $500,790, compared with one of $911,523 in 1948. The operating ratio for these carriers collectively last year was 101.4, compared with 103.3 in 1948. Total revenue passengers carried in scheduled services increased from 702,884 in 1948 to 827,213 last year; those carried in charter service, from 12,977 to 13,327, and those carried in contract service from 945 to 1,928, making total revenue passengers carried last year, 842,468 compared with 716,806 in 1948. The revenue passenger load factor in scheduled service came down a little last year, viz., from 65.1 in 1948 to 64.4 The poundage of goods carried decreased somewhat, viz. from 18,761,491 in 1948 to 18,051,323, this including non-revenue poundage, but the total goods ton mileage was up from 4,026,398 in 1948 to 4,863,248 last year. The average number of employees for these carriers collectively increased from 5,092 in 1948 to 5,846 last year, while total salaries and wages paid increased from $13,905,277 in 1948 to $17,461,300.



Signing of the Bilateral Agreement for Air Service between Canada and France, to Make Possible the Operation of a Paris-Montreal Route in Near Future.
Seen signing the treaty documents are, from left to right, Jean Basdevant, Charge d'Affaires of the French Embassy at Ottawa, and Hon. Lionel Chevrier, Canadian Minister of Transport. Standing, from left to right, are Andre Rousselet, Attache to the French Embassy; Jacques Mouries, representative of Air-France in Canada; J. P. R. Vachon, a member of the Canadian Air Transport Board, and C. Chatillon, of the Department of External Affairs.



A.T.A. Emergency Conference in Chicago

The American Transit Association's emergency executive conference and business meeting, in Chicago, September 18 and 19, which replaced the cancelled annual meeting which was to have been held on the Pacific Coast, attracted several hundred delegates, and there was much discussion of the problems faced by the transit industry as the result of the war in Korea and the threat of more serious hostilities.

The decision of the American Transit Association executive committee, backed by transit industry executives throughout the United States, to cancel the convention which had been scheduled for Los Angeles, September 25 to 27, was recorded in our September issue, pg. 508, where it was noted that arrangements had been made for the holding of an emergency conference and business meeting in Chicago, at the Stevens Hotel, September 18 and 19, and that the Association had formed a war programme committee. This committee functioned actively prior to the Chicago meeting, as recorded further on in this article. Morris Edwards, the retiring President, presided at the Chicago gathering.

Mr. Swift Describes Plans and Work of War Programme Committee

At the meeting, on September 18, following the presidential address by Mr. Edwards, Harley L. Swift, the chairman of the war programme committee, stated that it had been a matter of some astonishment to him to find, in talking with high government officials in Washington, that while there has been much planning in connection with long haul transportation, there had been none as concerns local transportation, the impression given being that all concerned have become so accustomed to being able to board a transit vehicle at any desired time, that such vehicles are taken for granted. He stated as in the following.

As you know, I have many times decried the defeatist attitude that seems to be creeping like a slow paralysis into key places in our industry. I have said repeatedly that mass transportation is neither a decadent nor a dying industry. On the other hand, it has been demonstrated —particularly in large cities and in other cities, if merchants are to be believed, during periods of strikes— that mass transportation is an essential industry. During World War II, when extremes in gasoline and tire rationing were in vogue, mass transportation proved to be a necessary and vital tool in the welfare of our nation, particularly in the production of war material.

It also has been demonstrated in many places that mass transportation can be sold on its convenience, its safety, and its economy when compared with any form of private transportation.



H. L. Bollum.
President, Springfield Street Ry Co., and the new President of the American Transit Association.

One of the things that caused trouble at the start of World War II was the fact that the defeatist attitude of the transit industry with regard to its future, had spread to the public at large to such an extent that in the early stage of war planning, the transit industry received little or no consideration as an essential industry. It was quickly demonstrated, however, that the transit industry was a vital tool in national defense. However, when the "powers that were" in Washington discovered this it was almost too late, for manufacturers of transit vehicles had dismantled their production lines due to government restrictions on the production of these vehicles, lack of allocation of material, and the fact that in a number of cases their plants (which were idle or partially idle, due to lack of orders from the industry for transit vehicles) had been taken over for the production of other war material.

Another item was that, despite the straws in the wind of 1940 and early 1941, the transit industry failed to prepare itself for the task it was going to have to undertake and which the leaders of the industry—had they had faith in their own industry—would have foreseen.

When we went into World War II riding and earnings of the transit industry were, even as they are today (except at that time they were more so) on the decline. Properties, as an economy measure, had reduced or deferred maintenance, were using old, almost antiquated equipment, and had no thought of carrying increased loads or doing increased work. During recent months the same thing has been recurring in our industry.

With the outbreak of the Korean Incident some of the leaders in the transit industry were startled into action and at the August 3rd meeting of the Executive Committee it was determined that this time transit would not be caught "off base." Two things occurred at this meeting— I. The convention on the west coast was called off and this emergency conference substituted. II. A War Planning Committee was set up.

As there was in 1941, when many in high places in the transit industry thought that there would be no rationing of gasoline and tires or restrictions on the building of automobiles, there seems to be a similar attitude this time. There is in addition, a disturbing complacency that, because of its performance in World War II, the transit industry will, without effort on its part, receive primary consideration in the deliberations of those in Washington responsible for seeing that our country is well prepared and fortified.

If we learned anything at all from World War II, we learned that "anything can happen here." If we have learned anything at all from Korea, we have learned that "lots of things can happen that lots of people thought couldn't or wouldn't ever happen again." There are some—and these persons are to be found both within

and without the planners for national defense and within and without our own transit industry—who believe that, because there seems to be no immediate possibility of the rationing of gasoline and tires or the curtailment of the use of private automobiles, transit operation and transit planning are normal and will remain so until such time as we are in an all-out war. That is folly of the worst sort.



Harley L. Swift,
President, Harrisburg Railway Co.; Chairman, American Transit Association War Programme Committee, and the new Vice President of the Association.

If there is a World War III, it seems to be the well considered thinking of both diplomatic and military people "in the know" that for the United States this will be a different kind of war. It probably will be a war that will find bombing, shooting, and sabotage within our own boundaries and probably well within our interior. That being the case, the place of transit in the national defense program planning is at once enlarged and even of more importance than transit was discovered to be as World War II progressed.

The position of transit in World War III will be one of more than that of just supplying transportation between the home and industry. The opinion of those who are closest to the international situation is that when all-out war comes, it will come without warning and more than likely by an air attack on one or more of our large cities. If it is "A" or "H" bomb attack, that will mean evacuation of the population. Mass evacuations of whole cities and towns should be and will be the duty and problem of the local mass transportation company. Who has had more experience than we of the transit industry in handling large crowds with dispatch and in an orderly fashion? The necessity for complete planning and full transit preparedness, when we go into war under these circumstances and in a new kind of warfare, becomes as vital to national defense as the complete training and equipping of troops.

It is clearly evident that while the fear of a World War III persists in the background, there is an optimistic belief that it can be avoided, or at least deferred for a time, provided that we, as a nation, exert every effort to prepare for and at the same time prevent war by re-establishing our military strength on a "ready-for-almost-anything" basis.

During this—shall we call it, "stay of sentence" period—we of transit industry should get our systems and equipment in order and in condition for a long, hard pull. Those of us who are in a position to purchase new equipment, should place these orders now. Those who cannot purchase new equipment, should go into an all-out program of rebuilding, repairing, and getting their tools in as good as new condition—and keeping them in that condition. If, as has been said before, war starts with an "A" or an "H" bomb attack, there will be no time to repair buses—there will be no time to reactivate buses in cold storage—there will be no time to buy or build additional buses.

If I have only intimated it before, let me make it clear now. Mass transportation is today as much a key unit in national defense on the home front as the artillery is on the battlefield.

A transit company well prepared will be one whose chief operating officials are key operating and planning men in the local, county, and state civil defense setup—it will be a transit company that has carefully considered its personnel situation, is busy training, and has replacements for every person of primary or secondary importance in its organization—it will be one whose equipment is in excellent condition, condition that will permit its operation away from home base, under abnormal and difficult conditions, for long periods—it will be one that has its employees instructed in, perhaps has had practice runs, on what to do should there be mass evacuations, much as they no doubt now have their garage men trained to act without confusion in a case of fire—it will be one with an ample supply of tires, fuel, lubricants, and parts that, without hoarding, will carry it over any sudden emergency—it will be one that has its plans made for the kind of service necessary to serve its community best under and during any phase of any war situation.

Gill Robb Wilson, Aviation Editor of the Herald Tribune, remarked in his column on August 15th:—"There is no American city today whose people have any confidence that they could avoid panic if emergency came. Not since the war have I heard a single civilian in any community in the nation express one iota of self-confidence in himself or his neighbors to meet disaster. It is this state of mind that represents the vast failure of our leaders to interpret our age to us in terms that fortify our spirits and impel us to assume responsibilities . . . A small percentage (of the people) are inherently stupid and unpatriotic, but the vast majority merely react in panic because they have not been told otherwise."

Let us in the transit industry do what we can in our areas to counteract this attitude of the people, even to the extent of suggesting that in the event of a hostile attack on our city, the defense authorities ban the operation of private passenger vehicles as individual vehicles on downtown streets and turn over the job of complete evacuation of the public, to whatever outside area is designated by authorities, in public transit vehicles and in private passenger vehicles, which would be placed under control of transit officials.

However, while we as an industry are co-operating wholeheartedly with civil defense organizations for any possible eventuality, we must not forget that the basic job of the transit industry is to maintain a sufficient fleet of vehicles to carry workers to and from production plants in order to give the armed forces the material necessary to prevent any such disaster in our cities.

Your War Program Committee already has made contact with many of the agencies and proposed agencies in Washington that will be dealing out regulations, allocations, etc. This contact has been made with the idea of giving these authorities full knowledge of what transit can do in the event of war, what transit did do during the last war, and what consideration it is necessary for transit to have now and later, if it is to do its job well.

We of the transit industry have not done too good a job of selling our problems, ourselves and our product to the public and to public officials



Warren R. Pollard,
President, Virginia Transit Co., and vice chairman representing operators, A.T.A War Programme Committee.

as a whole. It seems to me that our industry, like water, is accepted as something that is, always was, and always will be—that it does not make any difference what you take away from it or whether you do anything at all about it, it will always be there. Did you ever notice how, when you come to abandon a bus or car line, what a terrible squawk goes up about what an important factor that particular piece of transportation is to that community, and yet the use of that line has dwindled for years; in fact, it probably has been abused many times as an impediment to the automobile or community progress?

I have been surpised in talking with "big-wigs" in Washington to discover that, while they have considered and carefully planned for the transportation of men and materials from city to port or from manufacturing plants to national defense depots by highway, rail, air, and water, they have not even thought of the problem of transporting men from their beds to their work benches and from their work benches back to their beds. They just had not thought of that—and particularly they had not thought of it with regard to the smaller cities because these planners are so accustomed to big city public transportation just being there like an old umbrella in the corner—when they need it.

Your committee is working and will work to prevent our industry from being overlooked at any time by any agency that is set up or is rumored to be set up.

One thing that disturbs your chairman and which he believes should disturb the industry is the attitude of many of our individuals that it is necessary, in order to get anywhere, to have regimentation. Your chairman believes, along with the Transportation Association of America, that any regimentation that becomes necessary because of the threats of war must be in such form as to assure the preservation of the competitive enterprise system. American management and initiative can do any job given it if government gives it a chance—and can make our productive system work a thousand times better than government can.

Quoting from an editorial in Mass Transportation: — "Let us not be stampeded into government agencies taking over the control of everything. A little advance and judicious planning on the part of industry, a study of the errors of World War II, particularly the subjugation of industry, the needless red tape, the army of men and women in Washington shooting lead out of pencils when they could better have been busy in 'factories or firing a gun, is necessary. While we are fighting for freedom abroad, let us not lose it at home!"

Quoting this time an editorial in Bus Transportation:—"If an 'all-out' emergency does develop, there must be clear-cut understanding of the basic job which must be done by the bus industry. Stated simply, this means carrying thousands upon thousands of war workers to and from production plants each day, as well as transporting millions of riders daily in the traveling necessary to maintain the civilian economy . . . The industry must be assured of adequate equipment and supplies as well as sufficient manpower. We think this can be accomplished if wartime transportation officials on federal, state and city levels are provided with a clear understanding of how essential the bus industry is to the defense effort."



John H. Middlekamp,
Vice President, Mack-International Motor Truck Corp., and vice chairman representing manufacturers, A.T.A. War Programme Committee.

The above, I think, outlines the job of your War Program Committee as well as what it purposes to do.

There is no reason for and particularly at this time there must be no defeatist attitude on the part of our industry or any segment of it. There must be no selfish jealousy, petty or large between manufacturers of equipment—the gas bus maker must help the trolley bus maker—the street car maker, and vice versa; past differences must be forgotten. The task ahead is larger and more important than any individual or any one group. Whether or not our industry measures up to its responsibility, will depend on whether there is wholehearted, unselfish co-operation by operators, manufacturers, and suppliers, without exception, one with the other.

Let me say in closing that whether or not World War III comes, the transit property that has prepared itself for any eventuality—that has offered its services and more than that, whose officers have taken an active, unselfish part in planning and perfecting local civil defense, will benefit; first, because its equipment and manpower will be in excellent operating condition—but, of even greater importance, it will benefit because of the understanding that has been developed between the citizens of the community and the transit company itself. "It is an ill wind that blows nobody any good."

Officers for Ensuing Year—By adoption of the nominating committee report, H. L. Bollum, President, Springfield Street Ry. Co., was elected President of the Association for the ensuing year, with Mr. Swift as Vice President, and with C. F. Rogge, Comptroller, Public Service Co-ordinated Transport, as Treasurer. For Region 9 (Canada), W. H. Furlong, K.C., Chairman and General Manager, Sandwich, Windsor and Amherstburg Ry. Co., was elected Vice Chairman, with David N. Gill, General Manager, Ottawa Transportation Commission, as a director.

War Programme Committee. — In the article in our September issue, pg. 508, recording the cancellation of the American Transit Association annual meeting, which was to have been held in Los Angeles, September 25-27, we recorded that the Association's executive committee had authorized the President, Morris Edwards, to appoint a war programme committee, to emphasize to the highest governmental officials the essentiality of the transit industry in time of war, and to guide a programme within the industry to cope with the problems with which transit companies are likely to be confronted. It was further recorded that such a committee had been appointed, with Harley L. Swift, President, Harrisburg Railways Co., as its chairman, and with Warren R. Pollard, President, Virginia Transit Co., as vice chairman representing operators, and John H. Middlekamp, Vice President, Mack-International Motor Truck Corp., as vice chairman representing manufacturers.

The committee met at Association headquarters soon after its members had been appointed, and lost no time in making plans with a view to preparing for not only the immediate problems arising from the preparedness programme in the United States, but also problems which would face the transit industry in the event of war on a large scale. One object of the programme is to gain recognition from the U.S. Government of the essentiality of the transit industry. It is the belief of the committee members that the importance of transit service during a war should be emphasized, and that there should be recognition of the position of the transit industry in connection with manpower and material requirements, in order to allow each transit company to perform its important wartime tasks.

The following basic programme was approved at the first meeting of the committee.

Preparation of and publicizing the story of transit's importance in any all-out war effort, including the part to be played in civilian defense programmes;

An immediate survey of current and wartime requirements of the industry for manpower, vehicles, repair parts, fuel, tires and other critical operating supplies;

Dissemination of this information to the highest government levels so as to obtain needed recognition of transit's essentiality and its wartime manpower and material requirements;

Prepare and make available to member companies for local use suggested plans of action with respect to manpower, repair parts, fares, wage controls, civilian defense and the effective telling of the story of transit's vital part during war;

Adjustment of A.T.A.'s activities to give this programme top priority. Such action may involve enlarging the Washington staff, an expansion in regular information services, and other changes in the Association's internal organization to assure a thorough job of serving member companies for the duration of the emergency in line with the entire programme outlined above.

The committee's plans call for the obtaining of information on material and manpower, in order to estimate future emergency wartime demands and to place the industry in a position to meet them, and near the end of August the Association addressed all operating company members and asked for information designed to assist in the compilation of basic data on the industry's manpower and material requirements, under emergency or complete mobilization conditions. The requests for information were in questionnaire form, and to each operating company the following material was forwarded:—

1. Forms and instructions for taking a manpower inventory and for consolidating the information so as to permit uniformity of reporting on an industry-wide basis. Such uniformity will greatly simplify the task of supplying data on manpower requirements and problems to any governmental agency requesting same.

2. Sample of manpower analysis card. Use of this type of card permits maintenance of a flexible record system and offers a simplified means of providing a variety of information. This may be needed at intervals as the emergency situation changes.

3. A report form titled "Transit Manpower Inventory." All companies have been requested to submit pertinent information on this form covering status of every male employee in order that A.T.A. can evaluate the seriousness of the industry's manpower problems. The final analysis will be used to support representations before official governmental manpower agencies.

Another questionnaire covered information on the chief maintenance, repair and operating supplies needed for existing facilities and the material requirements for new construction under way or planned. Information was sought on rolling stock currently operated, new vehicle orders placed but not filled, and expected purchase of equipment during the next two years, and the dollar value of replacement parts used in 1949.

Additional Committee Members.— The appointment of additional members of the Association's war programme committee was announced by the Association's President, Mr. Edwards, as follows:—

Operating Company Representatives: H. L. Bollum, president, Springfield Street Railway; R. H. Farrell, general attorney, National City Lines; Powell C. Groner, president, Kansas City Public Service; Donald C. Hyde, general manager, Cleveland Transit System; E. D. Merrill, president, Capital Transit Co.; R. F. Randolph, executive vice-president, Charleston Transit Co.; Gordon G. Steele, president, Portland Traction Co.; Robert H. Stier, vice president-operations, Philadelphia Transportation Co.; J. M. Symington, vice president in charge of operation, Public Service Co-ordinated Transport; Col. Roane Waring, president, The Memphis Street Railway Co.; and John E. McCarthy, president, Fifth Avenue Coach Co.

Manufacturing Company Representatives: F. R. Fageol, chairman of the board, Twin Coach Co.; Charles Guernsey, vice president, Marmon-Herrington Co.; W. G. Kearney, manager, mileage contracts sales div., truck and bus tire dept., B. F. Goodrich Co.; H. E. Listman, general sales manager, motor coach div., truck and coach divisions, General Motors Corp.; A. F. McDougald, sales manager, coach div., White Motor Co.; Edwin B. Meissner, president, St. Louis Car Co.; Charles W. Perelle, president, ACF-Brill Motors Co.; George W. Pfeil, publisher, Bus Transportation; William T. Rossell, president, Transit Research Corp.; Kenneth T. Shaw, manager, light traction sec., transportation and generator divisions, Westinghouse Electric Corp.; John B. Tinnon, vice president, Metal & Thermit Corp.; Guy W. Wilson, manager, locomotive and car equipment div., General Electric Co.; and Frank Casey, vice president, National Pneumatic Co.

Toronto Subway Progress

Very satisfactory progress continues to be made on the construction of the subway in Toronto. As explained in preceding issues, a north-south subway is being built first, following the line of Yonge Street, the city's principal north-south thoroughfare, with a relatively short east-west extension along the line of Front Street, from the Union Station to the intersection with Yonge Street near its south end. To date, contracts have been awarded covering several sections, from south to north, and the progress to September 18 is described in the following.

Contract S1.—Intermediate lift on Front Street had been completed except for a small amount at the extreme west end of the structure. Bottom lift excavation commenced on August 18 on Front Street working east from the Royal York Hotel and also east from Bay Street. Intermediate lift excavation on Yonge Street had advanced to a point about 80 feet from the north end of the contract. Bottom lift excavation was also in progress and a ramp had been opened at Temperance Street and the Colborne Street ramp taken out of operation due to the pouring of the invert slab near the latter location.

Contract S2.—Decking of the Yonge-Dundas intersection was completed and open to traffic on August 21. Yonge cars were rerouted south on Yonge Street from this point on that date. Decking had been completed from the southerly end of the contract to the north side of Dundas Street and was progressing north to Edward Street. Top lift excavation was in progress north of Gould Street and stripping of the road surface had advanced to Walton Street. A total of 8 roof sections had been poured on this contract in the area from Louisa to Teraulay Street. Erection of the forms for the pouring of the walls in the Queen Station area was in progress.

Contract S2A. — Underpinning was the only work in progress on this contract.

Contract S3.—Pile driving from Alexander Street to Dundonald Street was completed and excavation to an average depth of 12 feet was completed from Alexander to Maitland. Preliminary top lift excavation to a depth of 5 feet had been completed from Dundonald to the south side of Gloucester Street.

Contract S4.—Excavation for and the laying of permanent sewers between Severn Street and Crescent Road, and at Shaftesbury Avenue, was continuing and excavation of the cut south of Aylmer Avenue was well under way.

Contract S5.—Actual construction on this contract commenced on August 14 with the removal of trees on the right-of-way and also with the layout of a temporary 33 inch sewer line along the south side of Pleasant Blvd.

Demolitions.—Over 45% of all buildings to be demolished now been completed to September 18.

The awarding of a contract for the work on sections S3, S4, and S5 of the Toronto subway undertaking to Rayner Construction, Ltd., Toronto, was recorded in our June issue, pg. 326, where it was noted that this company is a well known and experienced Toronto firm. It has carried out many large construction projects such as the water tunnel between Victoria Park and Parkdale Drive and the sewage treatment plant at Ashbridges Bay for the City of Toronto; a power dam for the Hydro-Electric Power Commission of Ontario at Thessalon; highway work, bridges and miscellaneous construction work for many other organizations, including some track reconstruction for the Toronto Transportation Commission some 20 years ago.

Transit Activity in Canada

There were decreases in April this year in revenue passengers carried by the Canadian transit properties in both urban and interurban service, compared with the April, 1949, traffic. The decrease, one of 4.4%, was larger than in immediately preceding months.

The number of revenue passengers carried by transit properties in Canada, in urban service, decreased from 127,762,525 in April, 1949, to 122,555,494 in the month this year, while the number carried in interurban service decreased from 9,105,475 in the 1949 month to 8,294,859 in the month this year. The decrease in total traffic was one of 4.4%. Flood conditions toward the end of the month affected traffic adversely in Manitoba, and the Easter Holiday period, as well as some work stoppages, particularly in the automotive industry, tended to reduce volume in Ontario. However, despite the decrease in total traffic, revenue in the combined urban and interurban services was greater in April this year than in the month last year, a small decrease in the interurban revenue having been more than compensated for by an increase in urban revenue. Vehicle miles operated decreased in April this year in both urban and interurban service, but the decrease, particularly in urban service, was not large. Complete figures, for April this year and last, are presented in the page-wide table accompanying this review. For each province individually, for interprovincial bus operators as a group, and for transit operators in the whole country, the figures record the passenger traffic, the revenue, the vehicle mileage, and the fuel consumption, and many comparisons with April, 1949, are given. As in many preceding months, a number of Quebec bus operators who reported for the 1949 month did not report for the month this year, and, to make the figures comparable, the statistics of these operators for April last year are excluded from that month's totals for the Province of Quebec and for Canada as a whole, but these April, 1949, figures appear as a footnote to the table. The figures were supplied by the Dominion Bureau of Statistics, Public Finance and Transportation Division.

As stated, there were 122,555,494 revenue passengers carried in urban service in April this year. Of these, 58,722,502 were handled by electric railway car, 16,069,826 by trolley coach, 47,718,680 by motor bus and 44,486 by chartered vehicle. Reference to the detailed figures for April last year shows that in that month there were 66,477,005 passengers carried by electric railway car in urban service, together with 12,900,630 by trolley coach. It is thus seen that over the year there was a considerable decrease in the number of passengers carried by electric railway car, accompanied by a large increase in the number handled by trolley coach. There was a very small decrease in the month this year in the number handled by motor bus.

In interurban service, of the total of 8,294,859 revenue passengers carried in April this year, 1,196,155 were handled by electric railway car, 6,756,331 by motor bus and 342,373 by chartered vehicle.

Total traffic, urban and interurban combined, was lighter in all provinces, except Alberta and Prince Edward Island, in April this year than in the month last year. As concerns interprovincial bus traffic, however, there was a notable gain in April this year, total passengers carried in this serv-

Record of Transit Activity in Canada, April, 1950
(With Many Comparative Figures for April, 1949)

Kind of Vehicle	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Inter-Provincial	Canada
Number of Passengers Carried—Urban Service											
Electric Tram				21,944,866	28,165,037	3,199,195	1,558,319	917,312	2,937,773		58,722,502
Trolley Bus		2,289,839		1,359,094	3,496,689	2,324,077	333,322	3,468,942	2,797,863		16,069,826
Motor Bus		2,128,720	2,286,678	13,648,868	20,567,106	2,580,022	439,816	1,511,277	5,556,193		47,718,680
Chartered[2]		780	670	11,244	25,365	5,957			470		44,486
Total—1950		3,419,339	2,287,348	36,964,072	52,254,197	8,109,251	2,331,457	5,897,531	11,292,299		122,555,494
Total—1949*		3,424,716	2,301,956	[3]40,109,040	52,754,791	8,520,308	2,301,880	5,601,159	12,748,675		[3]127,762,525
Number of Passengers Carried—Interurban Service											
Electric Tram				480,896	130,461				584,798		1,196,155
Motor Bus	11,543	219,987	306,083	1,810,238	2,835,191	333,026	57,492	256,596	852,576	73,599	6,756,331
Chartered[2]		1,439	2,962	81,082	237,070	1,673	25	25	18,097		342,373
Total—1950	11,543	221,426	309,045	2,372,216	3,202,722	334,699	57,517	256,621	1,455,471	73,599	8,294,859
Total—1949*	1,280	287,966	413,829	[3]2,335,405	3,634,761	403,606	94,434	234,448	1,641,270	58,476	[3]9,105,475
Revenue $											
Urban—1950		265,065	121,556	2,932,629	3,403,617	638,855	143,842	398,482	1,126,660		9,030,706
Urban—1949*		272,907	125,345	[3]2,406,078	3,382,269	602,524	138,943	361,846	1,056,564		[3]8,346,476
Urban—1950	2,835	62,287	114,745	747,916	1,219,824	131,800	40,689	208,322	502,658	110,494	3,141,570
Urban—1949*	1,226	91,223	131,520	[3]661,415	1,266,725	155,332	83,944	174,884	575,616	82,262	[3]3,224,147
Vehicle Miles Run—Urban Service											
Electric Tram				2,582,560	3,187,838	403,597	82,898	131,179	502,975		6,891,047
Trolley Bus		227,223		157,399	424,406	293,620	106,919	444,627	509,604		2,163,798
Motor Bus		292,375	311,019	2,227,689	3,552,341	506,771	121,615	273,494	1,402,095		8,687,399
Chartered[1]		137	239	5,318	19,952	6,084	65	3,685	3,696		39,176
Total—1950	...	519,735	311,258	4,972,966	7,184,537	1,210,072	311,497	852,985	2,418,370		17,781,420
Total—1949*		530,823	311,548	[3]5,022,730	7,186,885	1,270,319	283,641	843,584	2,454,546		[3]17,904,076
Vehicle Miles Run—Interurban Service											
Electric Tram				130,429	112,080				223,425		465,934
Motor Bus	10,209	289,752	362,337	1,571,098	2,854,598	366,970	126,475	462,957	1,014,811	248,305	7,307,512
Chartered[1]		2,285	5,629	76,377	163,378	8,755	200	2,194	34,840		293,658
Total—1950	10,209	292,037	367,966	1,777,904	3,130,056	375,725	126,675	465,151	1,273,076	248,305	8,067,104
Total—1949*	4,104	360,364	401,267	[3]1,675,129	3,257,705	484,882	240,157	416,792	1,355,340	194,755	[3]8,390,495
Fuel Consumed—Gallons											
Gasoline—Urban—1950		52,626	24,049	448,655	710,837	103,055	23,495	58,599	278,790		1,700,106
Gasoline—Urban—1949*		56,597	22,181	[3]429,516	676,076	108,906	26,340	40,269	267,598		[3]1,627,483
Gasoline—Interurban—1950	1,776	35,898	36,556	226,430	498,584	67,694	24,851	85,674	175,900	29,356	1,182,719
Gasoline—Interurban—1949*	477	45,341	39,568	[3]233,988	516,892	75,465	40,132	67,841	179,505	21,628	[3]1,220,837
Diesel Oil—1950		1,655	54,531	78,009	76,024			2,368	6,726	10,592	229,905
Diesel Oil—1949*		1,731	45,349	87,175	58,827			6,011	6,368	7,926	213,387

* 1949 Data are revised.
[1] Includes miles run by all classes of vehicles in chartered service.
[2] The number of passengers carried in chartered service is only approximate, as exact counts are not made for all trips.
[3] 1949 statistics for Quebec Carriers failing to report in 1950 are shown below. These are excluded from the 1949 totals for Quebec and Canada.

Quebec—Urban				
Quebec—Interurban	111,809	126,949	39,649	23,224
	Bus Miles	Passengers Carried	Revenue $	Fuel Consumed (Gallons)

ice having been up from 58,476 in the 1949 month to 73,599. This interprovincial bus traffic increase was accompanied by an increase of from 194,755 in April last year to 248,305 in the month this year in the bus mileage, and by one of from $82,262 in the 1949 month to $110,494 in the month this year in the revenue earned.

Urban traffic revenue increased from $8,346,476 in April, 1949, to $9,030,706 in the month this year, despite the decrease in traffic handled. The interurban revenue decreased from $3,224,147 in April last year to $3,141,570 in the month this year. The increases in fares recorded between April last year and this were evidently sufficiently great to counterbalance the effect of the traffic decline as concerns the urban service, but were not sufficient to counterbalance it as concerns the interurban service.

In urban service, total vehicle miles operated in April this year were 17,781,420, a small decrease from the total of 17,904,076 operated in the 1949 month. The urban service mileage operated this year was made up of 6,891,047 miles by electric railway cars, 2,163,798 by trolley coaches, 8,687,399 by motor buses and 39,176 by chartered vehicles. Compared with the 1949 month, there was a large decrease in the electric railway car mileage, accompanied by a considerable increase in the trolley coach mileage, in keeping with the decline in electric railway traffic and the expansion in trolley coach traffic. In April last year, urban service electric railway car mileage was 7,741,654, and the urban service trolley coach mileage, 1,584,573.

The vehicle mileage in interurban service came down from 8,390,495 in April, 1949, to 8,067,104 in the month this year, this latter mileage having been made up of 465,934 operated by electric railway cars, 7,307,512 by motor buses and 293,658 by chartered vehicles.

It is of interest to note that while the decrease in total traffic in April this year was one of 4.4%, the increase in total revenue was one of 8.2%.

As concerns the fuel consumption by motor buses, the figures show that in urban service gasoline used was up from 1,627,483 gall. in April last year to 1,700,106 gall., while in interurban service there was a reduction of from 1,220,837 gall. in April last year to 1,182,719 gall. in the month this year. The consumption of Diesel oil by Diesel-engined buses increased from 213,387 gall. in April last year to 229,905 gall. in this year's month. While in Quebec there was a decrease of from 87,175 gall. in the month last year to 78,009 gall. in this year's month in the Diesel oil consumption, in Ontario there was an increase of from 58,827 gall. in the month last year to 76,024 gall.

Mainly about Transit People

H. L. Bollum. President, Springfield Street Ry. Co., Springfield, Mass., who was elected President of the American Transit Association, at the recent emergency meeting of that body in Chicago, and who was the Association's Vice President last year, is widely experienced in transit work, being a veteran of nearly 35 years in the transit industry. He is president of four other companies in addition to Springfield Street Ry. Co., viz., City Lines of West Virginia, at Clarksburg; Westside Motor Transit Corp., Charleroi, Pa.; Penn Transit Co., McKeesport, Pa., and York (Pa.) Bus Co. As a boy on his father's Goodhue County farm, he became interested in the "horseless carriage", and in 1911 proceeded to St. Paul to take a course in automobile training. He joined with John Wade, one of the instructors at the training school, in buying out the school, but in 1915 the partners transferred their activity to bus operation, having begun the first St. Paul-Minneapolis bus line. The venture proved successful, and when the bus operation was taken over by Twin City Rapid Transit Co. in 1924, Mr. Bollum was retained as President. He left Twin City in 1937, and was associated with City Coach Lines, Inc., in Chicago, until 1939, when he was elected President of the Springfield Street Ry. Co.



Dr. A. E. Grauer, B.A., Ph.D.,
President and Chairman of the Board, British Columbia Power Corp., British Columbia Electric Co., Ltd., and British Columbia Electric Ry. Co.

Morris Edwards, President, Cincinnati Street Ry. Co., who, in his capacity of 1949-1950 President of the American Transit Association, presided at the recent emergency meeting of that body in Chicago, is a native of Indiana, a former newspaperman and magazine editor and a writer and speaker on topics of economics and public finance. He was born in Indianapolis in 1903, and attended public schools there, following which he studied at Wabash College and graduated from there with an A.B. degree in 1923. He engaged in newspaper work while attending college, and following graduation joined the Associated Press, where much of his work was in reporting sessions of the legislature and conferences of business groups. In 1928 he became a consultant on public finance with the U.S. Chamber of Commerce, and for the next three years helped local chambers of commerce to organize committees to study state and municipal finances with a view to reduction of public expenditures and taxes. He wrote several articles on various aspects of public finance which were published in Nation's Business, the American Banker and other magazines. In 1932, he served the state of New York as a special consultant, aiding in the preparation of the state budget. Following two years as associate publisher of Nation' Business (official magazine of the U.S. Chamber of Commerce) he became Manager of the Membership Relations Department of the Chamber, in 1934, having been in charge of the raising of funds and of contacts with members outside of Washington. In 1937 he became Executive Vice President of the Cincinnati Chamber of Commerce, and has been permanently identified with problems of Ohio River flood protection in Cincinnati. He continued as Executive Vice President of the Cincinnati Chamber of Commerce until the summer of 1944. During the war years he was Executive Director of the Hamilton County Council of National Defense, Secretary of the Citizens' Committee for Naval Officer Procurement, Employer representative on the Area War Manpower Commission, War Transportation Administrator of Hamilton County, and a district member of boards to hear labor disputes and wage cases under the War Labor Board. He was elected a vice president of the Cincinnati Street Ry. Co. in 1944, and in the following year was elected a director of the Cincinnati Chamber of Commerce; he was elected President of that body early in 1946, and re-elected in 1947. In March, 1948, he was elected President of the Cincinnati Street Ry. Co., and was A.T.A. Vice President for the 1948-49 year.

Dr. A. E. Grauer, B.A., Ph.D., President and Chairman of the Board, British Columbia Power Corp., British Columbia Electric Co., Ltd., and British Columbia Electric Ry. Co., has been elected to the directorate of the Sun Life Assurance Co. of Canada. Dr. Grauer is also a director of the Montreal Trust Co. He was born at Eburne, B.C., January 21, 1906.

and was educated at King Edward High School, University of British Columbia (B.A.); University of California (Ph.D.), and Oxford, England, (B.A., Jurisprudence), his attendance at Oxford having been as a Rhodes Scholar from Vancouver. Returning to Canada from England, he was called to the Bar of British Columbia near the end of 1930, and practised law with E. P. Davis and Co., Vancouver, for a short time, following which, in 1931, he became Lecturer in Economics at the University of Toronto. In 1935 he became Assistant Professor, Department of Social Science, University of Toronto, and in 1937 became Professor of Social Science and Director of the department at that university. In 1939 he became General Secretary, British Columbia Electric Ry. Co., and was elected Vice President of that company in 1944. In the same year he became Vice President of British Columbia Power Corp. and of British Columbia Electric Co., Ltd. Later in the same year he was elected Executive Vice President of the three companies. In April, 1946, he was elected President, British Columbia Power Corp., British Columbia Electric Ry. Co. and British Columbia Electric Power and Gas Co., Ltd. He was a member of the Senate of the University of Toronto until 1939, and in 1936, while in Toronto, was retained by the Bank of Canada to make a study of the taxation system of Canada. In 1937 and 1938 he acted as an expert on social welfare, social insurance and labor legislation for the Royal Commission on Dominion-Provincial Relations (Rowell-Sirois Commission). He has been very active in many community affairs in Vancouver, and is serving, or has served in the recent past, as a member of the Senate of the University of British Columbia; President of the Vancouver Symphonic Society; Vice Chairman of the Vancouver General Hospital Board of Directors, and a member of the executive committee and the British Columbia regional committee of the Canadian Chamber of Commerce. He is a member of the Honorary Advisory Council of the Canadian Transit Association, and a member of the Board of Governors of the Canadian Welfare Council.

John L. McQuarrie, whose appointment to the position of Engineer, Lake Erie and Northern Ry. Co., of Canadian Pacific Electric Lines, was recorded in our August issue, pg. 431, first started with the C.P.R. in 1934 as a laborer at Kemptville, N.S. He moved to Toronto as blueprinter in 1941, then worked for a few months at Bouchard and Kentville before enlisting in the R.C.A.F. He returned to Company service as a transitman at Sudbury in 1945 and was appointed Roadmaster, Webbwood, Nickel and Little Current subdivisions in 1948, the post he left to join the Electric Lines.

John H. Middlekamp, Vice President, Mack International Motor Truck Corp., who is vice chairman of the American Transit Association war programme committee, representing manufacturers, served in World War 2 as director of the Automotive Division, U.S. War Production Board, and, on leaving that position, joined Mack as Manager of its Government Department, and later became Manager, General Bus Sales Department, prior to becoming Vice President. Before his affiliation with the War Production Board, Mr. Middlekamp was a lieutenant-colonel in the U.S. Army, handling its truck production problems, and prior to that was Superintendent, Surface Lines Equipment, Brooklyn-Manhattan Transit Corp., for many years, and was brought into government service as a transportation expert.

F. H. Midgley, who retired recently from the position of Engineer, Lake Erie and Northern Ry. Co., of Canadian Pacific Electric Lines, joined the C.P.R. as a topographer at Woodstock, Ont., in 1907. Subsequently he held the following positions, all in Ontario, with the company: 1908, draftsman, Havelock; 1910, draftsman, leveller and transitman, Smith Falls; 1912 Resident Engineer, North Shore; 1914, Resident Engineer, White River. In 1915 Mr. Midgley transferred to the Electric Lines, where he remained until his retirement.

Col. Harley L. Swift, President, Harrisburg Railways Co., and chairman of the American Transit Association war programme committee, graduated from Pennsylvania State College in 1914, and worked for the General Railway Signal Co. on steam railway and interurban railway signal design and installation. For two years prior to the first world war he was with the predecessor company of the Youngstown Muncipal Ry. as Assistant Engineer, Maintenance of Way. During the first world war he served from July, 1917, to May 1919, in France, with the Sixteenth Engineers (Railway) and following the war served as a factory manager for the American Window Glass Co. From 1927 to 1942 he was associated with the Cincinnati Street Ry. Co., with which company he became Assistant General Manager. He was recalled to active duty with the army in 1942, and served in the office of the chief of staff. He organized the Civilian Automotive Adviser programme for teaching maintenance to officers and enlisted personnel, and procured some 2,200 expert automotive maintenance men as instructors; organized and directed the Officer Procurement Service for the army, through which over 100,000 officers with rare and special qualifications were secured from within and without the army. He also spent some time as executive officer, Maintenance Division, Army Service Forces, and at the time of inactivation, July, 1944, he was Director of Personnel for the Civil Affairs Division, War Department, General Staff. Since termination of the second world war, he served with Ebasco Services, Inc., of New York, as consultant and adviser in all phases of mass transportation for companies throughout the United States and Canada. Near the end of 1946 he was elected Executive Vice President and General Manager, Harrisburg Railways Co., and later became President of that company.

Rail Operation Ceases In Sudbury

At the beginning of September, the Sudbury-Copper Cliff Suburban Electric Ry. Co., Sudbury, Ont., of which Clayton D. Aiken is General Manager, had completed plans for the discontinuance of electric railway operation in Sudbury and on the Sudbury-Copper Cliff line, and inauguration of an all-bus service. An additional dozen buses were ordered, with which to complete the conversion to an all-bus system, including a number of 36-passenger Canadian Car-Brill vehicles. The company has an agreement with the Sudbury civic authorities to terminate electric railway operation and change to an all-bus system before the end of 1951, but the conversion is being effected some 15 months ahead of the stipulated time. All electric railway track, overhead wires, poles, etc., are to be salvaged, and the company management has already completed arrangements for the salvage of this material.

In the initial stages of the conversion, the electric railway cars are being replaced by buses on the Notre Dame Ave. and Gatchell lines. Service for workmen proceeding to Copper Cliff will be improved, as they will be taken directly to the gates of the smelter and refinery, instead of having a long walk from the electric railway terminus, as in the past. The routing of the company's vehicles is being improved considerably. The conversion to an all-bus system is making possible a street widening programme by the city and the Ontario Department of Highways. Earlier this year, the company removed its tracks and overhead on Elgin Street, which has been of benefit from a traffic viewpoint, and the widening of Elgin Street should assist materially in relieving congestion. Also, congested traffic on the Copper Cliff route will be relieved by a street widening programme. Finally, the removal of the overhead wires will make for an improvement in the appearance of the city.

Montreal Transportation Commission By-law

The legislation passed by the Quebec Legislature last spring, to provide for the taking over of the Montreal Tramways Co. property by a transportation commission, and for operation of the Greater Montreal transit service by such a commission, was described fully in our May issue, beginning on pg. 261, and the clauses of the act passed, designated as an "Act to Amend the Charter of the City of Montreal", were presented in full. The act provides that the proposed new transportation commission is to acquire the Montreal Tramways Co. undertaking, but specifies that all company properties acquired are to be owned by the City of Montreal. The commission is to be composed of three members appointed by the Montreal City Council on recommendation of the Montreal Executive Committee; one to be appointed by the metropolitan district cities and towns within the Greater Montreal area, and one to be appointed by the Quebec Lieutenant-Governor in Council, the latter appointee to be the chairman of the commission. The new commission may acquire the Montreal Tramways Co. undertaking either by expropriation, with the compensation determined by an arbitration board composed of three members, or by purchase of the Montreal Tramways Co. stock. In the event of acquisition by expropriation, the arbitration board would be made up of a member appointed by the new commission on the recommendation of the Montreal Executive Committee, one appointed by the Montreal Tramways Co., and the other, the chairman of the board, by the Chief District Magistrate.

The Montreal City Council spent much time in the latter part of August in framing a by-law to provide for the formation of the new transportation commission, and Chairman J. O. Asselin of the Montreal Executive Committee was called upon to provide many explanations as to the responsibilities of the proposed commission. In regard to the general financial outlook, he said that present fares in the Montreal area may be regarded as moderately low, and that the new commission would be expected to see that its revenues would be ample to cover its expenditures, adding that in his opinion this would be possible, in view of the fact that the commission will not have to pay taxes and that it will be able to finance at lower rates than the Montreal Tramways Co. has been able to obtain. Upon another council member pointing out that the legislation does not permit the new commission to embark upon the construction of a subway system, Mr. Asselin agreed that this power had not been conferred, but pointed out that the commission has been empowered to conduct studies and research, and to prepare plans having as their object the improvement of mass transportation in the Greater Montreal area.

Some discussion developed at the council meetings in regard to that part of the legislation which provides that in the event of the new commission proceeding to acquire the Montreal Tramways Co. stock, and agrees with the company on the price to be paid for it, such price must be ratified by the Province of Quebec Electricity Board. Mr. Asselin suggested that this should be amended to provide that the agreed price must be previously approved by the city council upon report of the executive committee. However, the Montreal Chief Attorney pointed out that such an amendment would be beyond the city council's legal power. Finally, it was decided that the amendment should be inserted in the by-law, with provision that it be ratified by the Quebec Legislature.

Another matter discusssed was the city guarantee of commission loans, and there was agreement that the other municipalities concerned should share with the city in such guarantees, and it was decided to ask the Legislature to amend the act at its next session in such a way as to have the other municipalities share the guarantees.

The by-law to set up the new transportation commission was finally approved on August 24. In its original form, the by-law, in compliance with the legislation, had stated: — "The commission, as agent of the city, may acquire by mutual agreement the capital shares of the company, provided that the decision of the commission in that connection be previously approved by the Electricity Board." As passed, however, this was changed to read:—"The commission, as agent of the city, may acquire, with the previous approval of the city council, on report of the executive committee, subject to approval of the Legislature, by mutual agreement the capital shares of the company, provided that the decision of the commission in that connection be previously approved by the Electricity Board."

In regard to this change, a city council member pointed out that there would be ample time to secure the approval of the Legislature, as the transportation commission members will not be named until November, and that it would be at least a year before the commission members would make up their minds as to the wisdom of trying to secure the Montreal Tramways Co. undertaking by stock purchase.

As stated, the suburban municipalities have the right to name one member of the commission. A meeting to discuss the matter was held at the Outremont City Hall on September 14, when many of the municipalities were represented. Those municipalities with 10,000 or more population were entitled to send two delegates to the meeting, these having been Verdun, Outremont, Lachine, Westmount, Ville Saint Laurent and Montreal North. Other municipalities, with fewer than 10,000 population, had the right to send one delegate, these having been Ville LaSalle, Town of Mount Royal, Ville Saint Michel, Pointe-aux-Trembles, Ville St. Piere, Montreal West, Montreal East, Montreal South, Longueuil, Hampstead and Cote St. Luc. Mayor Bourque of Outremont presided at the meeting. No decision as to a commission member was reached, and it was decided to hold another meeting, on October 16. The delegates representing outlying municipalities are to meet formally on October 18, at the Montreal Metropolitan Commission offices, to name their commission member.

No indication has yet been given as to who the other four members of the commission will be.

Editorial Comment.—Dealing editorially with the formation of the new transportation commission, the Montreal Gazette stated in part as follows in its issue of August 30:—

"One of the most important questions to be dealt with now is the selection of the personnel of the Commission, which the by-law stipulates is to be done within two months. This does not allow for undue delay in the actual setting up of the Commission, but nevertheless would seem to leave ample leeway for careful canvassing of available, qualified men for the commissionerships and for the careful choice of the most suitable candidates.

"The Commission is to be made up of three city appointees, one representative of suburban municipalities, and one named by the provincial Government, who will be chairman. It is most essential, to get the Commission and public ownership off to a good start and for the protection of the public interest generally, that the men chosen should conform to the requirements set forth in the by-law. Patterned closely after those laid down in the authorizing provincial legislation, these stipulate that the commissioners shall be "qualified persons by reason of their experience in matters of administration or public transportation, either by their techni-

cal knowledge or by their professional information." It is equally important that they should be men of integrity and good judgment, and with demonstrated indications of capacity to administer such a large and complex undertaking with sound, progressive direction.

"The salaries to be paid to members of the Commission are fairly generous, especially having regard for the fact that, when the operation gets fully underway, they are not likely to have to devote their full time and effort to their duties. The chairman is to get $15,000 a year, the vice-chairman $14,000; and the other members,$12,000. They will be eligible for $5,000 pensions after 10 years. As a comparison the chairman of the Toronto Transportation Commission, which operates what is conceded to be a model among transit systems on this continent, is paid $8,000 a year and his two fellow commissioners $6,000. It is true there is agitation in Toronto to raise these, but the gap is noticeable just the same.

"The emoluments provided here should make it possible to find commissioners clearly capable of doing their job well to public satisfaction. It would be unfortunate if they were to become merely a reward of political influence and standing or an inducement to individuals desirous of leaving active politics.'

T.T.C. Equipment, Construction, Etc.

It was recorded in our September issue, pg. 512, that the Toronto Transportation Commission had purchased 52 modern P.C.C. cars from Cincinnati Street Ry. Co., which property has discontinued operation of electric railway cars and is providing its transit service with other vehicles. It was also noted that some of these cars are of the all-electric type, carrying no compressed air, and that others are air-equipped. Delivery of these cars has begun, the first two having arrived in Toronto on September 11. They were sent to the T.T.C. Hillcrest Shops for conversion for operation on T.T.C. lines in Toronto. One important item of work is changing the gauge, the gauge of the T.T.C. Toronto lines being a little wider than the standard 4 ft. 8½ in.

The Commission has put out enquiries for additional motor bus and coach equipment, as noted in the Automotive Transport Department of this issue.

On September 10, the inter-island and night motor launch services which the Commission operates on Toronto Bay were discontinued for the winter months, and the boats Bluebell and Trillium were taken out of service.

Commission forces began rehabilitation of the main line special trackwork at College Street and Spadina Avenue, in west-central Toronto, September 11. Also, Commission forces began reconstruction of the special trackwork at the entrance to Birchmount Loop, in east Toronto, September 18.

Excellent progress continues to be made on the subway construction work in Toronto.

Public Ownership For London, Ont.

A recent press dispatch records that in voting by the London, Ont., ratepayers, on September 19, purchase of the London Street Ry. Co. assets for $1,000,000 was approved by 6,132 votes to 2,538, and that a proposal for establishment of a new civic transportation system at cost of $1,895,000 was defeated by 5,307 votes to 2,381.

(The vote of London ratepayers on July 18, wherein they defeated a proposal for purchase of the London Street Ry. Co. shares for $1,325,000, was recorded in our August issue, pg. 450. A London dispatch of August 24 recorded that the city had been offered the L.S.R. system at the reduced price of $1 million, and that the ratepayers were to vote on the matter on September 19, when they would also vote on a proposal to acquire a complete new transportation system at $1,895,000. The city council decided to submit the offer to the ratepayers following a closed meeting with R. G. Ivey, K.C., the L.S.R. President. The $1 million price named would cover the complete L.S.R. assets, including all of the company's shares and all of its properties, free of encumbrance.)

Hamilton Wage Dispute Settled

In regard to wage negotiations on the Hamilton Street Ry. Co. property, which have been proceeding for some time, a Hamilton press dispatch of August 24 said that a tentative agreement between the management and the employees, represented by Division 107 of the International Union, had been announced. The terms of the agreement were said to have been proposed by Chief Conciliation Officer Louis Fine, following a meeting with the company and union officials.

The dispatch said in part:— "The announcement did not indicate the basis of agreement, but it probably contains some settlement of retroactive pay demands being sought by the union. This was believed to be the major stumbling block. The union was asking for a 22 cents an hour increase and the company had offered 17 cents."

Official Advice received since the foregoing was printed was that details of the new agreement between the H.S.R. management and employees had not been concluded, but that the basis on which settlement was reached was one providing for an increase of 15c across the board, effective August 1, and an aditional two cents effective January 1, 1951. Also, the agreement is to provide for the addition of civic holiday to make a total of eight recognized holidays in each year. The new contract is to run to December 31, 1951.

B.C.E.R. Co. Traffic

The British Columbia Electric Ry. Co. carried revenue passengers on its various lines in June as follows:—

Vancouver	7,771,953
North Vancouver	439,680
New Westminster	759,874
Interurban	602,758
Victoria	1,480,494

July Traffic.—In July, passengers were carried on the various lines as follows:—

Vancouver	7,609,011
North Vancouver	418,947
New Westminster	698,777
Interurban	628,686
Victoria	1,487,671

Winnipeg Electric Co. Traffic

In August, the Winnipeg Electric Co. carried 6,483,704 revenue passengers, compared with 6,872,613 in August, 1949, a decrease of 388,909, or 5.7%.

J. J. Sears Dead

J. J. Sears, Superintendent, Nova Scotia Light and Power Co., Ltd., Transit Department, died suddenly in Halifax, September 13, as the result of a heart attack. Mr. Sears entered the Nova Scotia Light and Power Co., Ltd., service in 1922, as Street Railway Engineer, and was appointed Assistant Superintendent of the Transit Department in 1946, and Superintendent in 1948. He took a very active part in the work of conversion of the Halifax electric railway system to a trolley coach system.

Toronto Fares

The transit ticket rate in Toronto has been four for 25 cents over many years. Recently, Mayor McCallum stated in an address that this rate will be increased to one of three tickets for 25 cents, but he did not specify when the increase will be effective. He added that the Toronto Transportation Commission will charge the same fare on its rapid transit lines, when they enter service, as on the surface lines.

Hamilton Trolley Coaches Delivered

The Hamilton Street Ry. has received the 48-psgr. trolley coaches which were ordered from Canadian Car and Foundry Co., Ltd., Automotive Division. One of these was delivered shortly after the order was placed, and 14 were delivered in the period August 15 - September 15.

Trolley Coaches for Calgary

In the period July 15 - August 15, Canadian Car and Foundry Co., Ltd., Automotive Division, delivered six model T44, 44-psgr. trolley coaches to Calgary Transit System.

Wildcat Strike in Montreal

A matter of disagreement between Montreal Tramways Co. employees represented by Canadian Brotherhood of Railway Employees and Other Transport Workers, on the one hand, and the Canadian Association of Autobus Drivers, on the other hand, which has been the subject of litigation in the past and which concerns the seniority of men taken off electric railway cars and placed on motor buses and trolley coaches, resulted, on September 1, in the granting of a temporary injunction in Superior Court, directing the Montreal Tramways Co. to disqualify, as bus drivers, 64 employees formerly in electric railway service who had been transferred to the Autobus Department as a result of motorization of the company's Frontenac-Belanger route. The practical effect of this injunction was to deny to the 64 employees concerned retention of their full seniority rights, and the dissatisfaction this caused resulted in a wildcat strike on September 2, which, from a relatively small beginning on the route mentioned, spread rapidly until service had ceased on all of the company's routes except a few motor bus routes on which the buses are operated by employees who are members of the Canadian Association of Autobus Drivers. The cessation of service caused great inconvenience to residents of Montreal and to the many commutors working in the city.

A mass meeting of company employees who are members of the Canadian Brotherhood of Railway Employees and Other Transport Workers was held on the evening of September 2, and was addressed by J. E. Corbeil, General Chairman of the union's tramway division; P. E. Valiquette, President of Local 214 of the union, and William Smith, the union's general director in Quebec, who told the employees that their unauthorized strike was bringing discredit on the union and weakening its bargaining position, and advised them to return to work without delay. Also, C. Miron, head of the conciliation and arbitration section of the Quebec Labour Department, addressed the employees. Finally, Mr. Smith proposed a resolution as follows:—" Be it resolved that the meeting express confidence in the officers of the brotherhood to protect our interests in the courts and that every employee return to work immediately." This resolution was carried by an overwhelming majority, and the strike was called off and service was resumed early in the morning of September 3.

Statement by Company

Early in the evening of September 2, while service remained almost wholly suspended, the Montreal Tramways Co. issued the following statement:—"The company had no warning of the intention of its employees to discontinue their normally assigned work.

"This interruption of the tramway services is linked to the question of what seniority rights the tramways employees might avail themselves of when they become bus chauffeurs in the event of the motorization of a line in their division.

"This question has been, in the last two years, a source of litigation between the two Unions; The Canadian Brotherhood of Railway Employees and Other Transport Workers representing the tramway employees and the Canadian Association of Autobus Drivers Inc. representing the autobus chauffeurs.

"Yesterday again this question was brought before the Superior Court by the Canadian Association of Autobus Drivers which resulted in an injunction by the Honorable Justice Savard, ordering the Company to disqualify as autobus chauffeurs, Class-B, 64 former tramway employees recently transferred to the Autobus Department as a result of motorization of the Frontenac-Belanger line. This judgment, moreover, suspended the carrying-out of the booking lists of the autobus chauffeurs for the months of September and October. The company had to obey the orders of the Court.

"The disqualification of the 64 chauffeurs brings again to litigation the seniority rights of the tramway employees who transfer to the Autobus Department as a result of a substitution of tramways by buses.

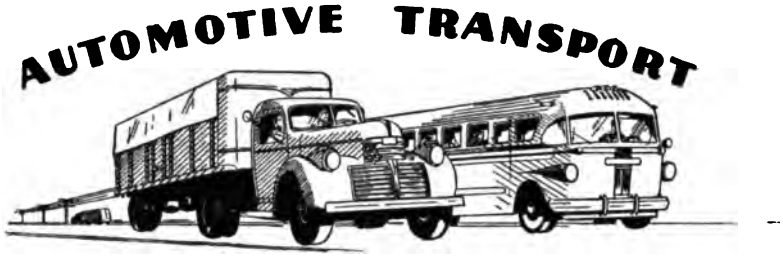
"The Company has been informed that it is to protest against this injunction that a large number of tramway employees refrained from working on the lines upon which they have been assigned.

"As soon as the Company was informed of this service interruption it met the representatvies of the Canadian Brotherhood of Railway Employees and Other Transport Workers. These have declared that they did not authorize the members of their Union to stop work. They have promised to do everything in their power to convince the employees to return as soon as possible to their work."

Further Court Action.—On September 6, hearing was begun in the Quebec Superior Court before Mr. Justice Loranger on the petition of the Canadian Association of Autobus Drivers to make permanent the temporary injunction which had prevented the company from transferring the 64 electric railway car operators to bus service with retention of full seniority rights. It developed that the differences of opinion between the two unions hinges on the interpretation of a rule incorporated in an agreement dating back to 1939. Counsel for the Canadian Association of Autobus Drivers contended that the dispute could be solved satisfactorily if the 64 operators were assigned seniority in accordance with the 1939 rule, but counsel for the C.B.R.E., on the other hand, contended that interpretation of the rule in accordance with the wish of the Canadian Association of Autobus Drivers would result in great injustice to many of the electric railway car employees, through impairment of seniority rights. Counsel for the company asked the court to squash the temporary injunction. Following hearing, judgment was reserved.

On September 13, Mr. Justice Loranger granted an interlocutory injunction to the Canadian Association of Autobus Drivers, restraining the company from transferring the electric railway employees to the new bus route with full seniority, and said that existing conditions are to continue until the matter is finally decided by Associate Chief Justice Tyndale at a hearing on a permanent injunction on October 23. Mr. Justice Loranger found that the company management contends that the 1939 rule is open to four interpretations, that the C.B.R.E. members contend that it is open to two, and that the employees represented by the Canadian Association of Autobus Drivers claim that it can be interpreted in only one way, viz., according to their own interpretation. He found that there was ground for the interlocutory injunction, and his judgment stated in part as follows:—"In this instance, there is no doubt that an apparent right exists in favor of the petitioning busmen. That right is based on their contract of employment with the tram company. Unquestionably they are justified in their efforts to safeguard that right jealously. The question whether the interpretation the busmen have given to the regulation is correct will be decided by judgment on the merits of the busmen's principal action to be heard Oct. 23 next.

"As to the question of prejudice. and the balance of inconvenience, it seems to me that it is the public that incurs the greatest risk of inconvenience. The public must wait several weeks before enjoying the privilege and the pleasure of an autobus service on Frontenac street. Meanwhile, nothing will be changed. Streetcars will continue to operate on that route, unless the company should come to an amicable agreement with its employees in the matter of motorizing the Frontenac street service without in any way affecting the rights of any of the parties in cause. The employees will not lack employment, and there will be no derangement as to wages. It is, after all, a question of only a few weeks' delay. There is no danger of trouble; and we hope that peace and harmony will continue to prevail amongst the company's employees."



Bus Transportation and the Diesel

By R. A. Harvey, Mechanical Superintendent, Provincial Transport Co.

(The following address by Mr. Harvey was presented at this year's annual meeting of the Canadian Transit Association, held at Bigwin Inn, Muskoka District.)

The problem of the application of Diesel power to road transportation is a complex one and in the time available I can only hope to mention briefly a few of the more important and fundamental points. I also hope to be able to persuade you in one of my firmest beliefs—that the Diesel engine, provided that it is well designed and constructed, is the most economical and efficient motive power for bus transportation that we have to-day. All of us here, in the transportation industry, have felt the result of sky-rocketing costs, with operating and maintenance figures almost doubling themselves since before the war. If we are to continue forward, we have got to offer transportation at a lower cost to ourselves in maintenance and operating. And when I say transportation, I mean a safe, fast, comfortable ride as good as, if not better than we offer to-day. How can we do this? It is not my intention to imply that the use of Diesel power is a panacea for all cost problems—that is far from the truth. But if we can cut our fuel consumption figures, and can decrease our maintenance costs by reduced engine maintenance we are, at any rate, heading in the right direction.

Let us just briefly review the development of the Diesel from its early days. In 1892, Dr. Rudolph Diesel set his patent on an engine which he developed originally for marine purposes. His aim was to burn the combustible mixture by means of extreme pressures, and without using any form of ignition system, thus doing away with spark plugs, distributors or magnetoes, coils, battery connections and high-tension wiring. He finally completed his engine in 1895, and after some independent tests had been run by a Professor Schroter, it was first publicly exhibited at the Munich Exhibition of 1898. The public reaction was instantaneous, and the Diesel engine came into popular use for marine and heavy duty industrial purposes. Diesel continued to develop his engine, and in 1913, when he met his death, he had prototypes running in heavy road transport vehicles. In 1928, some



R. A. Harvey,
Mechanical Superintendent, Provincial Transport Co.

Continental Diesel chassis were introduced into England, and 1930 saw the first English Diesel-engined passenger coach, powered by a Gardner 4-cylinder engine. Since that date, a mere 20 years ago, the Diesel engine has advanced to such a degree that the London Passenger Transport Board, who operate approximately 9,000 buses, have not ordered a gas-engined bus since 1938, and 95% of those buses now in operation are Diesel-powered. The same story applies to all the other big city transportation services, as well as intercity and heavy transport services. On this side of the Atlantic the story is the same, particularly in the United States and in some of the more progressive countries of South America. Central Greyhound Lines operate 53% Diesels, and in the bigger city services, such as New York, Chicago, Detroit, Cleveland, the Diesels' use in this type of service has been recognized.

The Future of the Diesel in Canada

Why is it then, that this country, which is as progressive and far-seeing as any other, has not adopted the Diesel more extensively than it has? I think the reason for this is two-fold. The only source of supply of this engine is the United States and Europe, and although a certain number of Diesels have been imported in the past, they have been standard models with no particular thought given to the kind of operating conditions met with here. Again, owing to our extreme climatic conditions, operating conditions are probably tougher in Canada than anywhere else. Where else in the world would an operation, in the normal course of events, be expected to handle ambient temperature changes ranging from 120° to 40° below zero Fahrenheit, a total differential of 160°. In order to handle these temperature changes, it is advisable that Diesels should be kept in heated storage, unless some form of pre-heating is available. This point is important where outside storage only is available, and no doubt has caused operators to hesitate before embarking on a Diesel programme. Cold starting has always been something of a problem, and heated storage, or a really effective heating unit, is the only satisfactory answer.

Fuel Consumption

I mentioned previously that the Diesel will cut one's fuel costs considerably, and to illustrate this, I intend to give you some figures from our own operation. We run a large variety of coaches on city, transit and inter-city services, and included amongst these are 110 Diesels, all of them GMC 2-cycle 4-cylinder engines, and comprising PD-2901 and 03's, 3702 and 03's and a few transit 36-passenger models. Taking the inter-city cruisers first of all, on long runs with few stops, the PD-3702 and 03 is giving us 9.7 miles per gallon, in contrast with a similar gas-engined model carrying the same number of passengers, which is giving us 4.2 miles per gallon. I would like to say at this point that I am not taking into account any other performance features or question maximum brake

horse-power out-put. With the smaller 29-passenger parlor Diesel we are getting 9.5 miles per gallon as against 6.4 miles per gallon with an equivalent gas-engined coach. And the transit Diesel is giving us 6.1 miles per gallon in comparison with 4.6 miles per gallon with a similar capacity gas coach. We do not, unfortunately, operate any Diesels in our city services, and I therefore have no figures to offer, although I know from past experience that the proportions are about the same. These three types of coaches are divided proportionately both by numbers and mileage run in approximate percentages of 65, 25 and 10, and if we apply these figures we reach an average fuel consumption figure of 9.38 miles per gallon. If we do the same for the gas-engined coaches, our average consumption figure works out at 4.96 or say 5.0 miles per gallon, just over half that of the Diesel, or a saving of 47%. In addition to this saving, there is an added differential of 3.75 cents per Imp. Gallon of Diesel fuel over gasoline. I am, of course, quoting figures applicable to only Montreal, since they vary over different parts of the country. In 1949, we used 520,000 gallons of fuel oil, for our Diesel operation. If we had been operating gas-engined coaches in place of the Diesels, and taking into account the price differential and increased fuel consumption, the increase in cost would have amounted to $93,400—a very considerable increase in cost.

Maintenance

From the maintenance standpoint, the Diesel has much to offer, but in order to put this point over, it is necessary that the fundamental difference between the gas and the Diesel be made clear. To take the place of the carburetor and ignition system, we have the injection system which, reduced to its simplest form, is a mechanical method of metering the required amount of fuel oil to each cylinder in the correct sequence and in proper volume to obtain the necessary engine speeds. Two main components are required to achieve this—the fuel pump, which delivers fuel to the right cylinder at the right time at the required pressure, and the injector, which sprays the fuel, delivered from the fuel pump, into the combustion chamber in a sufficiently atomized form to mix with the air in the combustion chamber to form an explosive mixture. The two most common forms of injection system used to-day are that in which the fuel pump, as a separate unit, and driven off the engine crankshaft, meters the fuel to the injectors under pressures extending up to 2,500 lb. per square inch. This is the standard Bosch type of injection system. And the second, in which the metering device and injector are built in as a single unit, each cylinder having its own injector and pump, and interconnected with each other by a control rod and fuel gallery. The fuel in this case is delivered at low pressure, and the necessity for special piping and lines is abolished. This is the system developed and used by G.M.C. in their well-known 471 and 671 engines.

From this you will see that we are dealing with a purely mechanical piece of equipment, and one which is independent of the battery. Thus, once the engine has been started, so far as the motive power of the coach is concerned, the battery can be dead, and the coach will still continue to operate. I feel sure that most maintenance men here today will agree with me when I say that the greatest majority of engine stoppages are caused by carburetor or ignition failures, either in the ignition system itself, in the wiring or the batteries. If we dispense with these two units, and replace them by a mechanical system, highly precision built, and, since they are working under pressure, therefore waterproof, the likelihood of failure is reduced considerably. Diesel powered industrial and marine equipment is expected to run for hundreds of hours between maintenance checks, the only servicing carried out being periodical cleaning. Of course, these units operate under steady load, but variations in load will not affect the injection system, but only the performance of the engine itself. This fact has been borne out in our operation, and the percentage of road failures with our Diesel equipment is negligible compared with the gasoline engined coach, apart from actual material failure. I operated a fleet of sixty Diesel-engined coaches in Greece for two years after the war. Our towing facilities were limited to a Dodge truck, and the only occassion we ever had to tow a coach in for engine trouble was due to crankshaft breakage. But in the normal course of events, the coach was always able to finish its run and get back to the garage under its own power.

Operating

What direct benefits can be expected from the Diesel engine over the gasoline engine from the driver's point of view? An important characteristic of the Diesel is its high torque output at comparatively low engine speed. This characteristic translated into performance means a good acceleration and pulling power at low speeds, and is an essential requisite and advantage for city operators. Again, this particular feature, when used in conjunction with a torque converter, gives a driver the chance for a rapid getaway and a quick change into direct drive, very desirable when driving through heavy traffic and congested areas. Every driver with a torque converter coach knows the hill which he starts up in turbine drive, picks up enough speed to change into direct drive and then, through lack of pulling power, drops back again into turbine and so he see-saws his way up the hill. The Diesel, with its high torque output, will pull him up that hill once he has sufficient speed to get into direct drive.

Disavantages

A few words now on some of the disadvantages to the use of Diesels. Every discussion of this sort has two sides to it, and a subject as controversial as this could not but fail to have angles which would tend to offset some of the good points of this type of engine.

1. **Initial Cost.**—In view of the basic design of the engine, the pressures required to ignite the fuel mixture are extremely high, and compression ratios are therefore about three times those used in a conventional gas engine, ratios of 16 and 17 to 1 being standard.

In order to withstand these very high compressional stresses, all the main components of the engine must be much more ruggedly constructed than in the gas engine, and this increased strength has to be paid for in the initial cost of the engine. This question of weight has been one of the main problems of engine designers, and in order to bring the Diesel down to a reasonable size so as to be used economically for road transport purposes, an enormous amount of research has been carried out. Metallurgists have developed new materials and alloys for this one specific purpose, and when one sees the compact and efficient engines which are available for us to-day, we can realize how successfully these developments have been pursued. Another reason for the high initial cost is the injection system, which, as I mentioned before, is a precision-built unit, and is therefore costly. What we must bear in mind is that these units, with normal use, will last many years, and that at the regular overhaul periods certain of the components only need to be changed—just the same as any other unit. Operators must therefore ask themselves whether the advantages of decreased fuel consumption and ease of maintenance outweigh the disadvantages of increased initial cost.

2. **Driver Training.**—In order to get the best out of any coach, a complete programme of driver training is necessary. A Diesel, however, needs additional driver training and knowledge, and any operator who intends to change over from gas to Diesel without giving his driver this additional training is going to find himself tied up with a lot of dead coaches. Let me explain this further. The driver who, with a gas coach, is in the habit of getting into top gear at about 15 m.p.h. and then pushing the accelerator to the floor, when he gets his Diesel coach is going to be in trouble very soon. When he pushes his accelerator right down, the injection system sprays into the combustion chamber the maximum quanity of fuel oil more than the combustion processes taking place can burn. The excess fuel runs down the walls of the cylinder,

and washes off the lubricating oil. The result, burnt pistons, broken rings, cracked liners and—if carried to the point where oil dilution takes place—burned bearings and crankshaft. All drivers must be made to understand that the Diesel likes to be driven hard, that its engine speed must be kept up and that if this is done, far better engine life and performance will be the result. The greater the engine speed, the greater the speed of compression and therefore the higher the temperature. With higher temperature, combustion processes are more complete, and every particle of fuel oil injected is burned. For this same reason, the habit of idling a Diesel for long periods at turn-around points and to maintain engine temperatures in cold weather is going to cause trouble. The engine must not be idled at speeds lower than 600 or 700 r.p.m., and for purposes of building up air pressure, or warming a coach up before starting a run, this speed must be kept within these limits.

3. Maintenance Personnel.—In the same way that a driver must be trained to get the utmost life and performance out of his engine, the mechanic who is going to overhaul and maintain that engine must be given special consideration, and should be trained, either at the factory or at a technical school, so that a basic knowledge of the fundamentals of the engine can help him when he runs into difficulties. He also has to learn the details of the injection system and to know the faults from various symptons, what white exhaust smoke and black exhaust smoke means, what causes lack of pulling power, uneven running; all these, the causes for which are different from his gasoline engine, have got to be learned, possibly, the hard way. But I do suggest that any operator who intends to change from gas to Diesel, will be well advised to have his mechanics trained both in theory and practice by well qualified instructors. I do not want to give the impression that the Diesel is any more intricate or involved than the gasoline engine —it most certainly isn't, but there certainly is a necessity for specialized training if results are going to be immediate, and any operator who lets his maintenance staff just find out for themselves, is going to pay dearly for it.

In addition to training his mechanics, the operator must be prepared to put in a certain amount of test equipment if he is to get the most out of his maintenance. Depending upon the size of his fleet and the type of Diesels he is going to use, it may only be necessary for him to meet a comparatively small outlay. But, if he has any quantity of coaches over fifty, and intends to carry out complete overhauls to his engine and injection equipment himself, he will be forced to have a fuel pump test stand, an injection tester, a dust-proof room set by for this equipment, and possibly even a dynamometer. Engines, after they have been overhauled, should be broken in under load, and this can only be achieved either by putting the engine into a coach, and gradually breaking it in on the road, or, more satisfactorily, setting it up on a dynamometer, and giving it progressive loads up to full power. The engine should never be broken in by running free.

Conclusion

These, then, are just a few of the pros and cons of Diesel operation. From my past eperience in a number of both hot and cold climates, the pros far outweigh the cons, and this belief is apparantly shared in many countries and operations. So far as we here are concerned, I believe we are on the eve of the Diesel coming into its own. A considerable amount of experimentation is under way today, the gradual build-up of experience gained since before the war when a few Diesels were brought in to Canada, some of which are still operating. For the past few weeks we have been running, on an experimental basis, an under-floor Diesel brought over from England, and the results have been most promising. With this type of work going on, and judging by the interest shown by operators in the possibilities of the Diesel, I feel confident that the day is not far off when engines, tested and proved suitable for Canadian transportation, will be available to any operator.

(The Author.—Mr. Harvey was appointed Mechanical Superintendent, Provincial Transport Co., near the end of 1949. He was born in London, England, and educated at St. Paul's School, London, and Birmingham University. He joined the Associated Equipment Company, of London, in 1938, and after World War II, during which he served in France, India and Burma, went to Greece to reorganize the Athens City Bus Operation and to train the Greek maintenance staff. He proceeded to Canada in 1948 and joined the bus division of Canadian Car and Foundry Co., Ltd., at Fort William, and in March of 1949 went to Provincial Transport Co. as Assistant to the Mechanical Superintendent.)

GMC New Warehouse In Oshawa

An accompanying illustration shows a group of General Motors of Canada, Ltd., executives who participated in the recent ground turning ceremonies for the company's new central parts distribution warehouse, to be built at Oshawa, Ont., at cost of about $3 million. The expectation is that the new building will be completed and in operation early in 1951. It will cover seven acres, and will accommodate approximately 500 employees of the existing parts department at Oshawa.

When completed, the new warehouse will facilitate handling of service parts to the regional depots throughout Canada. There are now eight such depots, and this number will be increased to nine with completion of the new regional depot in Montreal.



General Motors of Canada Top Executives Attend Ground Turning Ceremonies for New $3,000,000 Central Parts Distribution Warehouse at Oshawa

From left to right appear E. J. Umphrey, Director of Sales; W. A. Wecker, President and General Manager; W. R. Gardner, Parts and Accessories Department; W. D. Fielding, Assistant Director of Sales in charge of Parts and Accessories; F. I. Gibson, Warehousing and Distribution Manager, and H. C. Lapp, Manager, Field Parts Warehouse Operations.

Fitzjohn Canadian Plant

References to the Fitzjohn Coach of Canada, Ltd., new plant at Brantford, Ont., appeared in our July issue, pg. 410, and in preceding issues, it having been specified that this plant, at the Brantford Airport property, furnishes 42,000 sq. ft. of floor space, with the main building 160 x 270 ft. Some interior views of this fine new coach building plant are presented on this page.



The Machine Area at the Fitzjohn Canadian Plant

Provincial Transport Co. Increases Service

Effective September 8, Provincial Transport Co., Montreal, instituted new and improved bus services for the Lake Shore area in the Montreal vicinity, involving faster schedules, shorter headways, new and improved routings, extension of period during which service is given, and new transfer books for commuters. The new running time between Montreal (Central Terminal) and Ste. Anne de Bellevue is 55 minutes; between Montreal and Pointe Claire, 40 minutes, and between Montreal and Valois, 32 minutes. With the increased frequency of services, there are now 27 trips daily between Montreal and Ste. Anne de Bellevue, 49 trips daily between Montreal and Pointe Claire, and 19 trips daily between Cote de Liesse and Dorval.

By way of improved city routing for the rush hour periods, the Lake Shore coaches now operate via Upper Lachine Road during such periods. New Lake Shore routings have been provided, and the service from Ste. Anne de Bellevue to Valois is now via the Lake Shore Road, and from Valois to Montreal, via the Metropolitan Boulevard. The Montreal-Dorval-Pointe Claire service is via Lake Shore Road. With operating hours extended the first motor coach arrival in Montreal is at 6.10 a.m., and the last departure from Montreal is at 1 a.m.

New transfer comutation books are now available at no extra cost for passengers obliged to transfer to a connecting service at such points as Dorval, Valois, Pointe Claire, etc.

Propane Engines For General Use

Much has appeared in these columns recently in regard to the development of engines utilizing propane fuel by Twin Coach Co., Kent, O., and the mounting sales of the company's propane-powered buses. Under the heading "Manufacturers and Suppliers", in the concluding reading pages of this issue, mention is made of a line of propane-powered commercial engines manufactured by Fageol Products Co., a Twin Coach subsidiary, and it is noted that these engines, of one basic design, are offered in four models, ranging from 162 b.h.p. to 250 b.h.p., all major parts being interchangeable. The outstanding feature of these propane engines is their operation at a 10 to 1 compression ratio, with a 15 to 1 ratio available if desired. This ratio is said to permit full utilization of the 125 octane rating of the propane, and is made possible by employment of a patented combustion chamber which permits use of higher compression for greater power output without increasing power loads. Controlled turbulence within the combustion chamber provides a scouring action which prevents accumulation of carbon deposits. L. J. Fageol, the company President, predicts that by the use of propane instead of gasoline, the time between engine overhauls can be extended by at least 50%.

Features of these propane engines include a unit type construction in which overhead valves are operated



Motor Coach Building Is Carried on at the Fitzjohn Brantford Plant under Ideal Conditions as concerns Space, Lighting, Floor Surface, etc.

by an overhead camshaft. Engine vibration is reduced to a minimum by balancing of the forged steel crankshaft to compensate for 85% of the weight of reciprocating parts. Aluminum alloy pistons are of full skirt type, provided with three compression rings and one oil control ring. Connecting rods are individually matched to insure smooth, vibration-free engine operation.

The propane engines are expected to have many applications in addition to their use in buses and trucks, these being specified in the reference under the heading of "Manufacturers and Suppliers."

Result of Many Years of Research.— In a recent progress report to its stockholders, Twin Coach Co. points out that research and development work on engines over many years is now paying off, and it is stated:—"Twin Coach Company's many years of research and development work in the designing and perfecting of light weight, highly efficient coaches and high compression, high efficiency engines having compression ratios up to 14 to 1, and its work on 125 octane propane fuel and other high octane fuels are now being widely recognized by the transit industry. Development and perfection of the Fageol Engine (for both gasoline and propane use) by your company's President, Mr. L. J. Fageol, has been accomplished with a minimum of engineering and laboratory expense by practical application of experience gained through operation of the engine at extremely high speeds and power output in top automotive and marine competition. The low cost in time and expense to the company in creating and perfecting such an engine represents a remarkable achievement.

"Propane fuel, because of its great surplus and low price, and also because it is not a critical war material as are gasoline and Diesel fuels, is now being broadly adopted by the transit industry for use in the famous Fageol Twin Coach 10 to 1 compression ratio engine. Based upon its experience in operating 143 postwar Twin Coaches, purchased at various times since 1946, Chicago Transit Authority recently awarded your company an order for 500 propane powered 51-passenger coaches. Orders for approximately 200 more new propane powered coaches and 300 propane conversion units for postwar Twin Coaches have recently been received from a number of other transit operators throughout the country."



Interior of New Twin Coach Model 44-S Coach for Gray Coach Lines, Ltd.

New Equipment for Toronto

It was recorded in our September issue, pg. 519, that the Toronto Transportation Commission had received 10 44-psgr. city type buses from Twin Coach of Canada, Ltd., and that it had also received from the same builder, for its motor coach subsidiary, Gray Coach Lines, Ltd., 10 model 44-S, 44-psgr. city type coaches, and five model 44-S, 45-psgr. suburban type coaches. Exterior and interior views of one of the 44-psgr. city type buses were presented. In accompanying illustrations, exterior and interior views of one of the 44-psgr. city type coaches for Gray Coach Lines, Ltd., are given.

The Commission and Gray Coach Lines, Ltd., intend to make further additions to motor bus and coach equipment, and have issued enquiries for 10 city type buses, 10 interurban coaches and five suburban coaches.



One of the 10 Model 44-S, 44-psgr. City Type Coaches Delivered to Gray Coach Lines, Ltd. (T.T.C. Subsidiary), by Twin Coach of Canada, Ltd., Recently.

July Motor Vehicle Shipments

In July this year, according to advice from the Dominion Bureau of Statistics, Industry and Merchandising Division, Mining, Metallurgical and Chemical Section, factory shipments of Canadian-made motor vehicles totalled 40,131 units, compared with 41,383 units in June and with 25,383 in July, 1949. The shipments were made up of 11,411 commercial vehicles, viz., 11,349 trucks (10,545 for domestic sale and 804 for export) and 62 coaches or buses (all for domestic sale), and 28,720 automobiles (26,250 for domestic sale and 2,470 for export). In addition, there were shipments in July of 1,475 motor vehicles imported from the United States, comprising 205 commercial vehicles (all trucks) and 1,270 automobiles.

Following is the record of commercial motor vehicle shipments in July:

Maximum Gross Vehicle Weight in pounds	Made-in-Canada Vehicles For Sale in Canada	For Export	Total	Vehicles Imported from U.S.
5,000 and less	29,443	2,061	31,504	1,926
5,001—10,000	13,429	767	14,196	303
10,001—14,000	4,541	1,424	5,965	1
14,001—16,000	8,686	1,131	9,817	14
16,001—19,500	1,606		1,606	22
19,501—26,000	746	5	751	105
Over 26,000	436		436	143
Total Trucks	58,887	5,388	64,275	2,514
Total Coaches or Buses	337	...	337	...
Total Commercial Vehicles	59,224	5,388	64,612	2,514

Shipments in First Seven Months

In the first seven months of this year, factory shipments of Canadian-made motor vehicles totalled 231,896 units, compared with 165,498 and 144,288 units for similar periods in 1949 and 1948 respectively. These were made up of 64,612 commercial vehicles, comprising 64,275 trucks (58,887 for domestic sale and 5,388 for export) and 337 coaches or buses (all for domestic sale), and 167,284 automobiles (154,133 for domestic sale and 13,151 for export). There were also shipments of 2,514 commercial vehicles (all trucks) and 9,311 automobiles imported from the United States.

Following is the record of commercial motor vehicle shipments during the first seven months of this year.

Maximum Gross Vehicle Weight in pounds	Made-in-Canada Vehicles For Sale in Canada	For Export	Total	Vehicles Imported from U.S.
5,000 and less	5,378	538	5,916	160
5,001—10,000	2,638	35	2,673	3
10,001—14,000	687	159	846	...
14,001—16,000	1,465	72	1,537	...
16,001—19,500	167		167	8

19,501—26,000 ..	120	...	120	22
Over 26,000	90	...	90	12
Total Trucks .	10,545	804	11,349	205
Total Coaches or Buses	62	...	62	...
Total Commercial Vehicles.	10,607	804	11,411	205

Sales of British-made vehicles in Canada in July were 6,549 passenger cars and 333 trucks and buses, and in the first seven months of this year, 40,621 passenger cars and 2,646 trucks and buses.

International Harvester's New Vancouver Building

International Harvester Co. of Canada, Ltd., now has under construction a district office building in Vancouver, which will be a model of modern service facilities. It is being erected at Station Street and Terminal Avenue, south of the C.N.R. station, and will provide floor space of 36,610 sq. ft., on a site of 1.24 acres.

The new building will contain showroom, offices, parts department, inspection and service department, storage space and boiler and transformer room, and will house International Harvester motor trucks, farm equipment and industrial equipment, including crawler tractors and power units. The expectation is that it will be ready for occupancy on or about November 1 this year.

Canadian Car and Foundry Co. Deliveries

In the period August 15-September 15, Canadian Car and Foundry Co., Ltd., Automotive Division. delivered two model C-36, 36-psgr. transit type buses to Canadian National Rys., St. Catharines, Ont., for Niagara, St. Catharines and Toronto Ry. service, and two similar buses to City of Lethbridge, Alta. Also delivered were 30 model C-40, 40-psgr. transit type buses to Montreal Tramways Co., and 14 model T-48, 48-psgr. trolley coaches to Hamilton Street Ry. Co.

In the period July 15 - August 15, the company delivered a model C-36, 36-psgr. city service transit type bus to Chambly Transport, Chambly Basin, Que., and six model C-40, 40-psgr. city service transit type buses to Montreal Tramways Co. Also delivered were six model T-44, 44-psgr. trolley coaches to Calgary Transit System.

(In the September issue, pg. 522, it was stated that the company had delivered, in the period July 15-August 14, motor coaches to Rathbun Bus Service, Brantford Public Utilities Commission and McLellan Transportation Co., Ltd. This statement was made in error, due to transposition of a paragraph, and the deliveries recorded were made by Fitzjohn Coach of Canada, Ltd.)

Twin Coach of Canada, Ltd., Deliveries

During June and July, Twin Coach of Canada, Ltd., delivered new equipment as follows:—

To Gray Coach Lines, Ltd., Toronto, four model 44-S city type coaches.

To Toronto Transportation Commission, five model 44-S city type buses.

To Edmonton Transit System, three model 44-S city type buses.

To Sandwich, Windsor and Amherstburg Ry. Co., 4 model 38-S city type buses.

To Gray Coach Lines, Ltd., Toronto, five model 44-S suburban coaches.

Also turned out was a model 38-S suburban coach for demonstration purposes.

One of the buses delivered to Edmonton Transit System was equipped for use of propane fuel. The Edmonton property has ordered an additional 10 model 44-S Twin Coach buses to utilize propane fuel.

In August, Twin Coach of Canada, Ltd., delivered six model 38-S, city type coaches to Sandwich, Windsor and Amherstburg Ry. Co.; six model 41-S city type coaches to Danforth Bus Lines, Ltd., Toronto, and two model 41-S, city type, and two model 38-S, suburban type, coaches to Niagara, St. Catharines and Toronto Ry.

Fitzjohn Coach of Canada, Ltd.

In the period June 15 - July 14, Fitzjohn Coach of Canada, Ltd., Brantford, Ont., delivered a model 310, 33-psgr. coach to Penetang-Midland Coach Lines and a similar vehicle to Chatham Coach Lines; two 35-psgr. coaches to Gatineau Bus Lines; one 33-psgr. coach to Orillia Bus Lines, and a similar coach to Cities Bus Service, Sarnia. These are all Cityliner coaches, the model currently under construction at the Brantford plant.

In the period July 15-August 14, the company delivered a 33-psgr. coach to Rathbun Bus Service; two similar coaches to Brantford Public Utilities Commission, and two similar coaches to McLellan Transportation Co., Ltd. It was erroneously stated in the September issue, pg. 522, that these coaches had been delivered by Canadian Car and Foundry Co., Ltd., Automotive Division.

In the period August 15 - September 14, Fitzjohn Coach of Canada, Ltd., delivered four model 310, 30-psgr. coaches to Canadian National Transportation, Ltd., Oshawa, Ont., and two model 310, 33-psgr. coaches to Cyrville Bus Lines, all of these being Cityliners.

GMC Truck and Coach Division

In August, General Motors Corp. Truck and Coach Division, Pontiac, Mich., delivered 219 motor coaches, none of which entered Canada. The largest delivery was one of 94 51-psgr. coaches of city service type, model TDH-5103, to Pacific Electric Ry. Co., Los Angeles, Calif. To Century Corp., Burlington, Vt., there were delivered 10 36-psgr. city service coaches, model TDH-3612, and to Lake Shore Coach Lines, Inc., Detroit, 10 31-psgr. city service coaches, model TGH-3101. All deliveries in August, except one, were to customers in the continental United States, but the export shipment was an important one, viz., 57 36-psgr. city service coaches, model TDH-3612, consigned to General Motors Overseas Operations, Havana, Cuba.

Reo Motor Co. of Canada, Ltd.

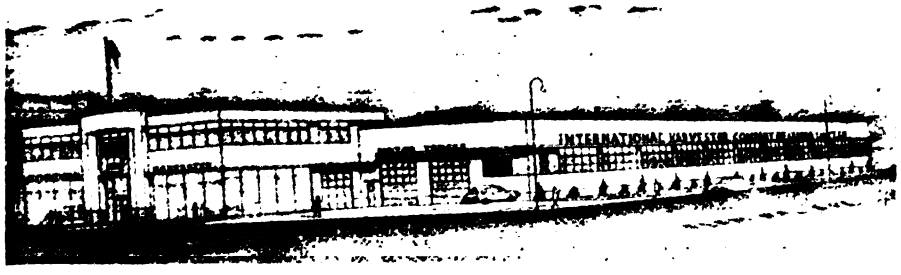
In the period August 15 - September 15, Reo Motor Co. of Canada, Ltd., delivered school buses to a total of 14, as follows:— Model C119, 31-psgr., three; model C119L, 43-psgr., one; model E119LH, 43-psgr., one; model E121, 49-psgr., five; model E121, 55-psgr., one; model S122, 55-psgr., two; model C122, 55-psgr., one.

Flxible Co. Deliveries

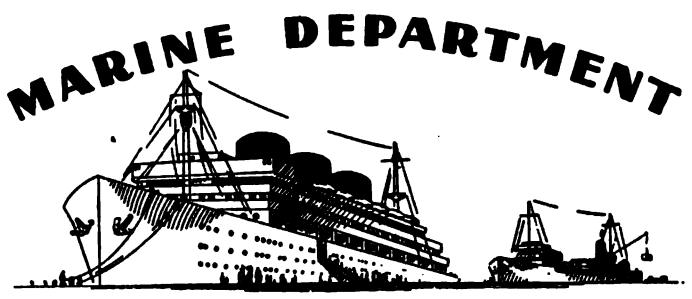
In the period July 14-August 15, the Flxible Co., Loudonville, O., delivered two model 218BI-50 29-psgr. coaches to The White Motor Co. of Canada, Ltd., Montreal. The arrangement between the Flxible Co. and the White Motor Co. of Canada, Ltd., for the marketing by White of Flxible coaches in Canada, was described in our August issue, pg. 452.

Western Flyer Coach, Ltd.

In the period July 15 - August 15, Western Flyer Coach, Ltd., Winnipeg, in addition to delivering vehicles to the Department of National Defence, delivered a 32-psgr. Western Flyer intercity coach to the Saskatchewan Transportation Co., Regina.



The International Harvester Co. of Canada, Ltd., New District Office Building in Vancouver, as It Will Appear Upon Completion



C.P.R. B.C. Coast Ss. Princess of Nanaimo

At the Fairfield Shipbuilding and Engineering Co., Ltd., yard, Glasgow, there was launched, September 14, the new ship for the Canadian Pacific Ry. British Columbia Coast Steamship Service run between Vancouver and Nanaimo, on which she will make two round trips daily. She has been christened "Princess of Nanaimo".

Preliminary information in regard to the new 6,000-ton ship for the transportation of passengers and automobiles between Vancouver and Nanaimo, as furnished by Capt O. J. Williams, Manager, Canadian Pacific Ry. British Columbia Coast Steamship Service, was given in our issue of December last, beginning on pg. 694, where it was noted that the contract for construction of the ship had been awarded in June, 1949, to Fairfield Shipbuilding and Engineering Co., Ltd., Govan, Glasgow, Scotland, the firm which built the two new passenger ships for the C.P.R. B.C. Coast service, viz,. the ss. Princess Marguerite and the ss. Princess Patricia, which entered service during the summer of 1949 and were described fully in illustrated articles in this journal.

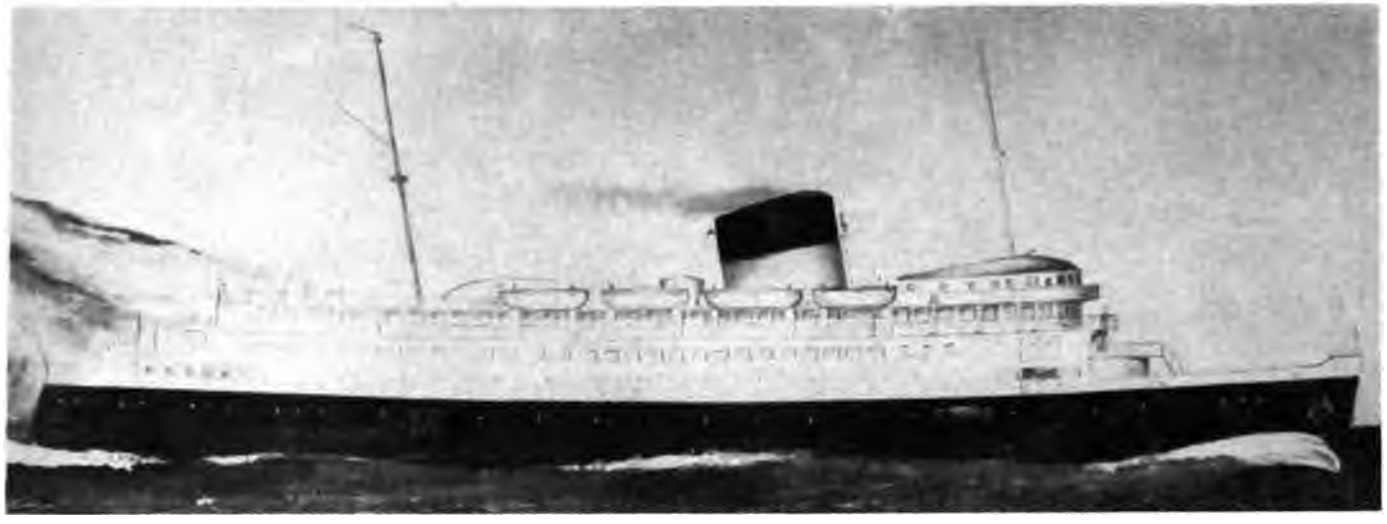
The new steamship for the Vancouver-Nanaimo service was launched at the Fairfield yard on September 14, and christened Princess of Nanaimo by Lady Anderson, wife of Sir John Anderson, a Canadian Pacific Ry. Co. director.

The new ship is for the company's 36-mile run between Vancouver and Nanaimo, B.C., where she will make two return trips daily.

The chief dimensions of the "Princess of Nanaimo" are:—Length over all, 358 feet; length between perpendiculars, 337 feet; breadth, 62 feet; depth moulded to main deck, 19 feet 9 inches; draft, 14 feet 3 inches. Speed of 18½ knots will be provided by the 8,000 s.h.p. engines. Gross tonnage of the ship is 6,000. The new ship will have accommodation for 1,500 day passengers in the large observation room, restaurant and coffee bar, lounges and other public spaces, and for the carriage of motor cars 22,500 square feet of parking space will be available on two decks, providing space for about 130 to 150 motor cars, depending on their size. To expedite the loading and unloading, all cars will be driven by the car owners through shell doors in the ship's side from or to long adjustable ramps on the wharf.

The ship, which is being constructed to conform to Lloyd's requirements for a vessel classed 100 A.1, for "Channel and Sound Services", and to comply with regulations of the British Ministry of Transport and the Canadian Board of Steamship Inspection, will be sub-divided into ten watertight compartments by bulkheads extending to the main deck, each, where necessary, having an electrically-operated watertight door, and will have six decks, one entirely for crew, two for motor cars and three for passengers, the top passenger deck being a sun deck. All spaces for passengers, crew and motors cars will be mechanically ventilated with a supply of fresh filtered air, hot or cold as required, the temperature of the air supplied being thermostatically controlled. All accommodation is being constructed to comply with the regulations proposed by the International Conference on Safety of Life at Sea-1948, in respect of fire prevention, and a sprinkler system and fire alarm system of the latest type will be installed.

Lifesaving equipment, consisting of lifeboats and buoyant apparatus, will be provided for the full complement; one of the life boats will be motor driven, and all carried under gravity davits.



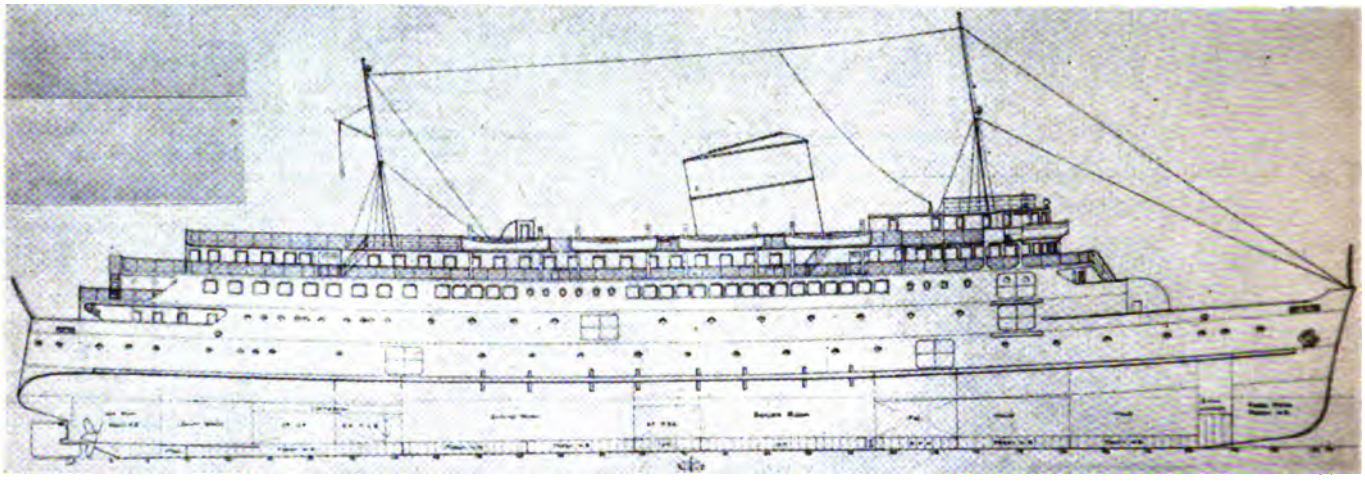
The Canadian Pacific Ry. British Columbia Coast Steamship Service Ss. Princess of Nanaimo

From the above naval architect's sketch a good idea is furnished as to the apearance to be presented by this fine new ship when she is completed. The ship, to operate two round trips daily between Vancouver and Nanaimo, will accommodate some 1,500 day passengers and between 130 and 150 automobiles.

The "Princess of Nanaimo" will be propelled by twin screws, each driven by a set of single reduction geared turbines to Pametrada design, and the propeller revolutions will be 225 at the service power for a speed of 18½ knots. The astern turbines will develop not less than 70% of the ahead power in a separate H.P. astern turbine and an L.P. astern turbine incorporated in the L.P. ahead casing, and steam will be admitted to the turbines through manoeuvring valves controlled by Cockburn's servo-motor system. Steam is generated for the turbines, turbo generators and turbo feed pumps, in three oil fired water tube boilers of the Yarrow type, each fitted with superheater and air-heater, the steam leaving the superheater at a pressure of 325 lb. per square inch and temperature of 650°F. An auxiliary boiler of the Howden-Johnson type will also be fitted for the supply of steam for domestic and other auxiliary services, including the stand-by turbo generator. To prevent the discharge of soot, etc., from the funnel, a gas cleaner of the dry type will be fitted in the uptake of each of the four boilers.

The auxiliary machinery is to be of the latest type, and, with the exception of the turbo generators and turbo feed pumps, will all be electrically driven, the electricity for the auxiliary services and all cooking equipment being provided by three turbo-generators, generating 220 volts direct current, and for lighting, etc., by three motor alternators, generating 110 volts alternating current. In addition to the foregoing, one Diesel generator will be installed for emergency purposes.

The ship, which will be equipped with all aids to navigation, including instruments for direction finding, automatic electric sounding, radar, ship-to-shore telephone, etc., is expected to be ready for delivery to the owners next March, so that it may arrive on the Pacific Coast in time for the opening of the tourist season next spring.



The Ss. Princess of Nanaimo in Elevation

P. W. D. Marine Contracts

The Dominion Department of Public Works awarded contracts of marine interest in August as follows:—

For construction of a breakwater at Lower Wedgeport, N.S., to Babine and Taylor, Yarmouth, N.S., at approximately $29,550.

For wharf replacement at Montreal River (Mowatt's Landing), Ont., to Thos. McDonald, Kirkland Lake, Ont., at approximately $14,625.

For construction of a wharf at Sandfield, Ont., to L. R. Brown and Co., Ltd., Sault Ste. Marie, Ont., at approximately $7,113.

For improvements to wharf and breakwater at Fortune, Nfld., to Concrete Products (Newfoundland), Ltd., St. John's, Nfld., at approximately $54,920.10.

For construction of a breakwater at Petit Cap, Que., to Emile Cloutier and Charles N. Nadeau and Sons, Ltd., Port Daniel Station, Que., at approximately $38,290.50.

For dredging at Burlington, Ont., to McNamara Construction Co., Ltd.,

Sault St. Marie Canals Traffic

Below is a statistical report on great lakes commerce passing through the canals at Sault Ste. Marie, Michigan and Ontario, in June, the figures having been compiled under the direction of John D. Bristor, Colonel, Corps of Engineers, United States Army, District Engineer.

Items		U.S. Canal	Can. Canal	Total
Eastbound				
Ship passages	Number	1,314	209	1,523
Registered tonnage	Net	5,729,007	174,672	5,903,679
Passengers	Number	713	2,181	2,894
Freight	Short tons	13,264,912	180,733	13,445,645
Wood products:				
Lumber				
Shingles				
Pulpwood		78,410	26,270	104,680
Vegetable products:				
Flour		1,298	3,991	5,289
Wheat		892,799	65,391	958,190
Grain, other than wheat		187,388	42,921	230,309
Mineral products:				
Copper, lake				
Copper, electrolytic				
Zinc				
Iron ore		12,060,291		12,060,291
Scrap iron		12,269		12,269
M'f'd iron and steel		26,560	2,271	28,831
Stone			8,020	8,020
General merchandise		5,897	31,869	37,766
Westbound				
Ship passages	Number	1,316	213	1,529
Registered tonnage	Net	5,587,404	280,873	5,868,277
Passengers	Number	2,123	937	3,060
Freight	Short tons	2,084,078	65,163	2,149,241
Mineral products:				
Coal, soft		1,594,062	8,876	1,602,938
Coal, hard		35,228		35,228
Iron ore		34,002		34,002
M'f'd iron and steel		12,983	946	13,929
Salt		6,172	100	6,272
Stone		267,487	900	268,387
Petroleum products		100,736	11,058	111,794
Wood products:				
Pulpwood				
General merchandise		22,976	41,386	64,362
Automobiles		10,432	1,897	12,329
Summary				
Ship passages	Number	2,630	422	3,052
Registered tonnage	Net	11,316,411	455,545	11,771,956
Passengers	Number	2,836	3,118	5,954
Freight	Short tons	15,348,990	245,896	15,594,886

Includes broken stone, gravel and sand.

Toronto, at approximately $34,852.10.

For dredging at Ste. Anne de Sorel, Chenal du Moine, Que., to McNamara Construction Co., Ltd., Toronto, at approximately $39,461.25.

For dredging at Point Sapin, N.B., to Price Construction, Ltd., Moncton, N.B., at approximately $10,976.

For dredging at Glace Bay, N.S., to the J. P. Porter Co., Ltd., Montreal, at approximately $37,820.

For dredging at Riviere des Milles Iles, Que., to Delorimier Construction, Ltd., Montreal, at approximately $10,865.

For dredging at Bonaventure, Que., to Dimock and McLelland, Reg'd., New Richmond West, Que., at approximately $31,000.

For reconstruction of breakwaters at Ste. Anne de Sorel, Que., to Lucien Lachapelle, Sorel, Que., at approximately $38,647.

For repairs to harbour works at Goderich, Ont., to Canadian Dredge and Dock Co., Ltd., Toronto, at approximately $172,752.

For wharf improvements at Carleton, Que., to Victor LeBlanc, St. Charles de Caplan, Que., at approximately $48,900.

For harbour improvements at Port Arthur, Ont., and dredging at Fort William, Ont., to Canadian Dredge and Dock Co., Ltd., Toronto, at approximately $1,224,177.

For dredging at Beaverton, Ont., to McNamara Construction Co., Ltd., Toronto, at approximately $8,800.

For dredging at Baie Comeau, Que., to The J. P. Porter Co. Ltd., Montreal, at approximately $105,860.

For construction and delivery afloat, at Waterways, Alta., of a 40 cu. yd. steel dump scow to attend dredge P.W.D. No. 251, to Standard Iron and Engineering Works, Ltd., Edmonton, Alta., at $25,900.

For dredging at Michipicoten, Ont., to McNamara Construction Co., Ltd., Toronto, at approximately $188,087.50.

For dredging at Goat Lake (Squid Cove), N. S., to M. D. Rawding, Liverpool, N.S., at approximately $16,329.50.

Saint John, N.B. Harbour

There were 1,645 ship arrivals at Saint John in 1949, with foreign cargo tonnage of 1,968,645 and domestic cargo tonnage of 447,250, making total cargo tonnage handled, inward and outward, 2,415,895. Grain traffic was well up, with a total of 28,954,549 bush. handled.

The Harbour of Saint John, N.B., comes in for its due share of attention in the report of the National Harbours Board for 1949, from which the information presented in this review has been extracted. Saint John Harbour, situated at the mouth of the Saint John River on the north shore of the Bay of Fundy, is open to navigation the year round and is served by both the Canadian Pacific and the Canadian National railways. It is accessible from the sea by a main channel 600 feet wide, with a minimum depth of 30 feet at extreme low tide. Here the National Harbours Board operates 10 main wharves and piers having some 13,755 linear feet of berthing, with available drafts alongside varying from 25 to 35 feet at extreme low water, and 18 transit sheds, including frost-proof areas in three sheds, with an aggregate floor space of about 868,000 square feet, all with rail connections. The Board's grain elevator, on the west side of the harbour, has a storage capacity of 1,500,000 bushels, and is connected to nine of the berths by over two miles of conveyor galleries with a shipping capacity of 60,000 bushels per hour. Two locomotive cranes and 15-ton and 65-ton floating cranes are available.

Ship Arrivals and Departures

There were 1,645 ship arrivals at Saint John Harbour in 1949, with net registered tonnage of 2,337,215, compared with 1,655 arrivals in 1948, representing net registered tonnage of 2,366,364. Ship departures in 1949 were 1,652, representing net registered tonnage of 2,383,130, compared with 1,639, representing net registered tonnage of 2,372,140, in 1948. Figures recording ship arrivals and departures, and net



Wilson Studio (Saint John photo.

The Harbour at Saint John, N.B.

registered tonnage of arriving and departing ships, in 1949 and each of the four immediately preceding years, follow.

	Number of Vessels	Net Registered Tonnage
Arrivals—		
1949	1,645	2,337,215
1948	1,655	2,366,364
1947	1,593	2,341,455
1946	1,551	2,129,154
1945	1,496	2,320,772
Departures—		
1949	1,652	2,383,130
1948	1,639	2,372,140
1947	1,602	2,393,916
1946	1,533	2,095,997
1945	1,501	2,327,090

(Exclusive of Naval Craft)

Details as to the classes of ships arriving at Saint John Harbour, and the number in each class, in 1949 and 1948, together with figures of net registered tonnage, appear in the accompanying two-column table 1. It is seen that as concerns arrivals of ocean-going commercial ships, there were four less last year than in 1948, with an increase of eight last year in the arrivals of coastal or inland commercial ships.

Cargo Tonnage

Total cargo from foreign ports or destined for foreign ports, handled through Saint John Harbour last year, was down slightly from that of 1948. Inward foreign cargo was up from 590,021 tons in 1948 to 605,087 tons last year, but cargo destined for foreign ports decreased from 1,622,886 tons in 1948 to 1,363,558 tons, with the result that total foreign cargo tonnage decreased from 2,212,907 tons in 1948 to 1,968,645 tons last year.

As concerns domestic cargo tonnage, there was a decrease of from 453,046 tons in 1948 to 347,762 tons last year in the inward movement, with an increase of from 81,020 tons in 1948 to 99,488 tons last year in the outward movement, with the result that the total domestic cargo tonnage decreased from 534,066 in 1948 to 447,250.

As concerns the combined foreign and domestic cargo tonnage, there was a decrease in the inward movement last year, compared with 1948, and also one in the outward movement, the decrease in the total cargo tonnage, inward and outward, having been from 2,746,973 in 1948 to 2,415,895 last year. Details of the cargo tonnage handled through the Port of Saint John in 1949, and each of the four immediately preceding years, are furnished by the figures in the accompanying two-column table 2.

Commodities Handled Through Saint John

Prominent among the commodities in the cargo handled through Saint John Harbour is grain, of which 416,384 tons was handled through the port in 1949, all outbound. Also well up on the commodity list were raw sugar (202,603 tons); gasoline (167,652 tons); flour (167,454 tons), and fuel oil (117,282 tons). The complete list of the commodities handled in inbound and outbound cargoes through Saint John Harbour in 1949 is furnished in the accompanying two-column table 3, with the total tonnage of each commodity handled in 1948 stated for purposes of comparison.



Russell Yuill, B.Sc. (C.E.), M.E.I.C.,
Port Manager at Saint John, N.B., for National Harbours Board.

Passenger Traffic

Last year, passengers bound for or arriving from foreign ports embarked or disembarked at Saint John to a total of 4,625, of whom 862 arrived and 3,763 departed. This was a large increase over the 1948 traffic, when there were 984 inbound passengers and 1,788 outgoing, a total of 2,772. In coastwise service, there were 100,502 passengers handled last year, of whom 51,481 were arriving and 49,021 leaving. In 1948, in the coastwise traffic, 104,415 passengers were handled, of whom 53,273 were landed and 51,142 embarked. Thus, passengers to a total of 105,127 were handled at the port in 1949, of whom 52,343 landed and 52,784 embarked. In 1948, passengers handled totalled 107,187, of whom 54,257 landed and 52,930 embarked. Following are figures covering the passenger traffic through the Harbour of Saint John last year, and in each of the four immediately preceding years:

	Landed	Embarked	Total
Foreign—			
1949	862	3,763	4,625
1948	984	1,788	2,772
1947	712	860	1,572
1946	706	540	1,246
1945	298	301	599
Coastwise—			
1949	51,481	49,021	100,502
1948	53,273	51,142	104,415
1947	49,663	46,165	95,828
1946	57,537	54,905	112,442
1945	93,111	83,431	176,542
Total—			
1949	52,343	52,784	105,127
1948	54,257	52,930	107,187
1947	50,375	47,025	97,400
1946	58,243	55,445	113,688
1945	93,409	83,732	177,141

(Exclusive of armed forces and prisoners of war)

Grain Traffic

Receipts of grain at the terminal elevators in Saint John are all by rail, and such receipts last year were 14,634,883 bush., compared with 12,555,428 in 1948. Shipments by water were 14,024,281 bush., compared with 12,333,841 bush. in 1948. There were small shipments by rail, making total shipments last year 14,319,666 bush., compared with 12,473,238 bush. in 1948. Thus, total handlings last year were 28,954,549 bush., compared with 25,028,666 bush. in 1948. The year 1945 was an exceptionally busy one as concerns the grain traffic at Saint John, total handlings having been over 59 million bushels, but the traffic last

Table 1—Statement Showing Classification, Number and Net Registered Tonnage of Ships which Arrived and Departed during Calendar Year 1949, with Comparison for 1948, Saint John Harbour.

	1949		1948	
	Number of Vessels	Net Registered Tonnage	Number of Vessels	Net Registered Tonnage
Arrivals—				
Deepsea or ocean-going commercial	542	1,621,354	546	1,679,887
Coastal or inland commercial (including fishery)	1,070	708,699	1,062	678,378
Other	33	7,162	47	8,099
Total	1,645	2,337,215	1,655	2,366,364
Departures—				
Deepsea or ocean-going commercial	552	1,669,133	546	1,690,476
Coastal or inland commercial (including fishery)	1,067	706,835	1,048	674,305
Other	33	7,162	45	7,359
Total	1,652	2,383,130	1,639	2,372,140

(Exclusive of naval craft)

Table 2—Statement Showing Water-borne Cargo Tonnage Unloaded from and Loaded to Ships during Calendar Year 1949, with Comparisons for Previous Years, Saint John Harbour.
Basis: Tons—weight (2,000 lbs.) or measurement (40 cu. ft.)

	Inward (Tons)	Outward (Tons)	Total (Tons)
Foreign—			
1949	605,087	1,363,558	1,968,645
1948	590,021	1,622,886	2,212,907
1947	516,200	2,014,997	2,531,197
1946	547,804	1,777,285	2,325,089
1945	606,586	2,721,266	3,327,852
Domestic—			
1949	347,762	99,488	447,250
1948	453,046	81,020	534,066
1947	392,876	89,633	482,509
1946	425,973	91,626	517,599
1945	442,756	79,743	522,499
Total—			
1949	952,849	1,463,046	2,415,895
1948	1,043,067	1,703,906	2,746,973
1947	909,076	2,104,630	3,013,706
1946	973,777	1,868,911	2,842,688
1945	1,049,342	2,801,009	3,850,351

(Exclusive of ballast (non-revenue), bunkers, ships' stores, mail and passengers' baggage)

year compared favorably with that of 1947 and 1946, as well as with that of 1948. Following are particulars of the grain traffic at the port in the years 1945-1949 inclusive, the figures recording bushels:

	Receipts (Bush.)	Shipments (Bush.)	Total (Bush.)
Via water—			
1949		14,024,281	14,024,281
1948		12,333,841	12,333,841
1947		13,596,926	13,596,926
1946		15,924,932	15,924,932
1945		29,378,627	29,378,627
Via rail—			
1949	14,634,883	295,385	14,930,268
1948	12,555,428	139,397	12,694,825
1947	13,417,203	162,479	13,579,682
1946	15,150,627	225,236	15,375,863
1945	29,608,084	251,808	29,859,892
Via other—			
1949			
1948			
1947		109	109
1946		144	144
1945		233	233
Total—			
1949	14,634,883	14,319,666	28,954,549
1948	12,555,428	12,473,238	25,028,666
1947	13,417,203	13,759,514	27,176,717
1946	15,150,627	16,150,312	31,300,939
1945	29,608,084	29,630,668	59,238,752

repairs to grain gallery 56, replacement of two receiving elevator lofter casings, and painting grain galleries 5, 6, 7 and 56.

Capital Works.—The Saint John Harbour capital expenditure last year, part of which was provided from the replacement fund, amounted to $1,520,057. The items covered by that expenditure were:

Reconstruction of McLeod-Pettingill wharf and shed (now Pugsley Wharf). In 1948 a contract was awarded to the Saint John Dry Dock Company, Limited, for the reconstruction of McLeod-Pettingill wharf and shed, with grain conveyor gallery and gantry grain loader overhead. Approximately 50% of the work was completed in 1948. This work was continued in 1949 and at the end of the year the construction of the wharf and shed was approximately 98% completed and the grain gallery approximately 66% completed.

Other capital works last year were minor items. The construction of longshoremen's rest rooms at berth 4 and at the Broad street wharf, started in 1948, was completed in 1949.

Table 3—Statement Showing Principal Commodities, and Tonnages Thereof, of Water-borne Cargo Tonnage Unloaded from and Loaded to Ships during Calendar Year 1949, with Comparison for 1948.

Basis: Tons—weight (2,000 lbs.) or measurement (40 cu. ft.)

Commodities	Inward 1949 (Tons)	Outward 1949 (Tons)	Total 1949 Tons)	Total 1948 (Tons)
Grain		416,384	416,384	333,275
Sugar, raw	202,147	456	202,603	212,163
Gasoline	149,888	17,764	167,652	128,128
Flour, wheat		167,454	167,454	307,729
Petroleum Oil, fuel	108,776	8,506	117,282	101,320
Potatoes		86,294	86,294	47,904
Logs, Masts, Piling, Pitprops, Poles, Posts, Spars and Ties (railway)	447	85,009	85,456	125,345
Lumber (Planks, Boards and Flooring) and Square Timber	2,026	78,758	80,784	82,134
Motor Vehicles and Parts	47,957	30,022	77,979	48,665
Fertilizers and Fertilizer Materials	75,438	1,642	77,080	62,790
Paper, newsprint		70,174	70,174	53,361
Coal, bituminous	53,175	231	53,406	168,312
Wood-pulp	113	42,647	42,760	44,210
Aluminum, in bars, billets, blocks, ingots, pigs, rods, sheets or slabs	846	37,254	38,100	58,767
Petroleum Oil, crude	33,406	16	33,422	36,223
Ferro-alloys		22,540	22,540	25,674
Railway Equipment not otherwise specified	24	21,434	21,458	31
Meats, canned, cured, prepared or preserved	37	20,147	20,184	50,150
Coal, anthracite	19,566	154	19,720	20,215
Iron or Steel, scrap	19,510	..	19,510	59,864
Iron or Steel Manufactures not otherwise specified	15,243	2,565	17,808	8,007
Zinc Spelter	3	17,289	17,292	15,674
Copper, refined, in bars, billets, cakes, cathodes, ingots or slabs		16,734	16,734	21,831
Asbestos and Asbestos Manufactures	975	15,381	16,356	18,014
Glass and Glass Manufactures	15,278	390	15,668	14,523
Grain Products (Mill Products except Wheat Flour)		15,163	15,163	65,926
Machinery and Parts (except agricultural)	8,313	6,528	14,841	23,317
Iron or Steel Band, Bars not otherwise specified, Hoop, Plates, Rods, Sheets, Skelp, Strip and Tin Plate	10,600	3,415	14,015	9,941
Eggs, in shell		13,754	13,754	41,907
Agricultural Implements, Machinery and Parts (except Motor Vehicles)	85	13,110	13,195	12,269
Dry Goods not otherwise specified	12,291	397	12,688	10,085
Tea	10,838	623	11,461	9,565
Lead and Lead Manufactures	12	11,011	11,023	10,426
Pulpwood		10,647	10,647	10,914
All Goods not otherwise specified	165,855	229,153	395,008	508,314
Total	952,849	1,463,046	2,415,895	2,746,973

(Exclusive of ballast (non-revenue), bunkers, ships' stores, mail and passengers' baggage)

Maintenance and Capital Works

Maintenance.—In 1949, ordinary maintenance and repairs were carried out at Saint John Harbour at total cost of $220,624. The main items were dredging one slip and the central areas of three other slips to a minimum depth of 30 ft. below extreme low tide, dredging one berth to a minimum depth of 28 ft. and another berth to a minimum depth of 12 ft., repairs to the substructure of berths 9 and 10, refacing concrete wharves at berths 13 and 14, repairs to South Market wharf, painting interior frame of shed 5, repairs to roofs of sheds 5 and 6,

Revenues and Expenditures

The Saint John Harbour operating revenues (cents omitted) in 1949 were $715,423, compared with $805,364 in 1948, a decrease of $89,941. Operating and maintenance expenses last year were $501,162, compared with $472,365 in 1948, an increase of $28,797. After taking into account income debits and credits, paying interest amounting to $34,706 on debt to the public, and charging reserve for replacements and interest due the Dominion Government, there was a net income deficit of $529,275 in 1949, compared with one of $389,149 in 1948. The Saint John Harbour income statement for last year accompanies this article as two-column table 4.

Details of Operating Revenues

The following table records the sources of Saint John Harbour operating revenue in 1949, and the amount derived from each.

Harbour General		
Harbour Dues	$15,538.25	
Miscellaneous	19,599.18	
		$35,137.43
Wharves and Piers		
Top Wharfage	413,604.14	
Dockage	144,345.61	
Miscellaneous	84.57	
		558,034.32
Permanent Sheds		
Shed Rentals	22,505.70	
Storage	13,776.75	
Miscellaneous	102.36	
		36,384.81
Railway System		32.50
Grain Elevator System		
Receipts from joint operation		42,319.15
Miscellaneous—Outsiders		43,514.36
		$715,422.57

Details of Operating Expenses

The Saint John Harbour administration expenses in 1949 were $71,156.74, and the outlay for operation and maintenance was $430,005.74, making the total operating expenses $501,162.48. Following are details of the 1949 operation and maintenance expenses.

Harbour Dredging	$85,591.56
Harbour General	77,539.85
Vehicular Bridges	880.07
Roads, Fences and Boundaries	4,961.82
Sewers and Drains	1,698.63
Wharves and Piers	70,770.02
Permanent Sheds	113,618.77
Grain Elevator System	19,999.99
Miscellaneous—Outsiders	54,945.03
	$430,005.74

Table 4—Income Statement, Saint John Harbour, 1949

Operating Revenue		$715,422.57
Operating Expenses		501,162.48
Operating Income		214,260.09
Income Received from Reserve Funds	96,713.31	
Miscellaneous Income Credits	6,763.07	
		103,476.38
Total Income		317,736.47
Miscellaneous Deductions from Income—		
Income received from Reserve Funds transferred to Reserves	96,713.31	
Miscellaneous Income Charges	20.88	
		96,734.19
Income Available for Interest due Public		221,002.28
Interest on Debt to the Public		34,705.76
		186,296.52
Other Income Requirements		
Reserve for Replacements	200,000.00	
Interest due Dominion Government	515,571.41	
		715,571.41
Net Income Deficit		$ 529,274.89

Balance Sheet as at December 31, 1949

The assets side of the Saint John Harbour balance sheet, recording the position at the end of 1949, shows fixed assets of $27,493,196.18, and current assets of $333,499.84, other items being: Security deposits, $280,449; replacement fund, $3,304,663.19; fire and general insurance fund, $168,252.49; prepaid charges, $265.59, and deferred debits, $1,475.61.

The liabilities side records the following items: Debenture indebtedness to public, $671,282.35; Dominion Government account, $26,741,616.12; construction accounts payable, $96,323.74; construction contractors' holdbacks, $281,504.46; current liabilities (including matured and unpaid interest due the Dominion Government, $4,540,095.41), $4,570,596.40; contractors' security deposits, $280,449; replacement reserve, $3,305,368.15; fire and general insurance reserve, $168,252.49; deferred credits, $7,131.35; deficit in surplus and deficit account, $4,540,722.16.

Details of Fixed Assets

Following is a list of the Saint John Harbour fixed assets as of December 31, 1949:—

Harbour Dredging	$ 955,090.54
Real Estate	1,766,457.64
Vehicular Bridges	30,107.37
Roads, Fences and Boundaries	150,969.66
Wharves and Piers	14,480,879.64
Permanent Sheds	2,488,933.93
Railway System	192,660.57
Grain Elevator System	3,986,394.03
Office Furniture and Appliances	9,315.80
Harbour Buildings	51,378.07
Central Heating Plants	57,182.39
Water Supply System	14,315.67
Floating Equipment	201,999.68
Shore Equipment	112,483.55
Miscellaneous Small Plant	14,055.27
Works under Construction	2,980,972.37
Total	$27,493,196.18

Port Management

Russell Yuill, B.Sc. (C.E.), M.E.I.C., is in charge of National Harbours Board operations at Saint John, with the title of Port Manager. Mr. Yuill was an engineer with the National Harbours Board, but in May, 1940, was loaned to the Shipbuilding Branch of the Department of Munitions and Supply, and was appointed Director of the Branch in the spring of 1942, and Assistant Director-General in August, 1943. He returned to National Harbours Board service in the late spring of 1944. He was born at Truro, N.S., October 6, 1892, and educated at Mount Allison and McGill Universities, graduating from the latter with honors and the degree of B.Sc. (C.E.). Entering the Department of Railways and Canals in 1915 as Assistant Engineer, Port Nelson, B.C., he has been since, in that department:—1919, Engineer, in charge of field operations, St. Lawrence Ship Canal and Power Development; 1928, in charge of inspection trip of Sir Frederick Palmer to Hudson Bay and, later in that year, in charge of Churchill Harbour development. In 1935, he entered the service of National Harbours Board, Ottawa. He was on military service overseas in 1918-19 as a lieutenant, Royal Canadian Engineers. He was appointed Port Manager, Saint John, in the summer of 1946, succeeding Alex. Grey, who retired on superannuation.

Seagoing Dredge Sandpiper

Mention was made in our May issue, pg. 285, of the launching by Canadian Vickers, Ltd., Montreal, of a seagoing hopper dredge, named "Sandpiper", for Creole Petroleum Corp. An illustration of this dredge, a twin screw, 1,100 cu. yd. craft, appears herewith, having been prepared from a photograph showing her at the Canadian Vickers, Ltd., fitting-out berth immediately following her launching.

This twin-screw dredge has Diesel power, with electric propulsion, the propulsion units being two 1,000 h.p. reversible, 600 volt D.C. 785-875 r.p.m. motors, each driving a propeller of 10 ft. diameter at speed of from 135 to 150 r.p.m. A dispatch states that the Sandpiper is the sixteenth ship built by Canadian Vickers, Ltd., for Caribbean operation. At the launching, the new dredge was christened by Mrs. E. L. Stewart, wife of the Manager of the Esso Shipping Co. Construction and Repair Division.

Victoria Machinery Depot Co., Ltd.

The yard of Victoria Machinery Depot Co., Ltd., Victoria, has been quite busy during the past few months, and has carried out many repair jobs, including the following:—On the ss. Lakemba of B.C. Ship Chartering Co., Ltd., Vancouver, installing of 20 additional staterooms, combined children's dining room and lounge, and bar, in second deck accommodation; H.M.C.S. Ontario, of Department of National Defence, drydocking and extensive repairs; repairs to ss. Princess Kathleen, ss. Princess Mary, ss. Princess Marguerite, ss. Princess Joan, ss. Princess Elizabeth, ss. Nootka, ss. Princess Norah, ss. Princess Maquinna and tug Kyuquot, of C.P.R. B.C. Coast Steamship Service; ss. Scottish Monarch, of Canadian Transport Co., Vancouver, ship repairs; ss. Ixia, with owner represented by King Brothers, Ltd., Victoria, agents, ship repairs; C.G.S. Wm. J. Stewart and C.G.S. Parry, of Department of Mines and Resources, annual overhaul; fish packer Coop. No. 3, of Kyuquot Trollers, Victoria, docking, cleaning and painting; fish packer Coop. No. 1, of same owner, docking and propeller repairs; many tugs and scows of Island Tug and Barge Co., Victoria, sundry repairs; derrick scow John A. Lee, of McKenzie Barge and Derrick Co., Vancouver, ship repairs; barge Ogden Point, of Canadian National Rys., docking and ship repairs; fish packer Vinetta Prince, owned by Capt. Prince, docking and ship repairs; tug San Juan Prince, of B.C. Forest Products, Ltd., docking and repairs; ss Bervin, of Canadian Fish Co., ship repairs; ss. Aliki, S. Livanos and Co., New York, agents, ship repairs; ss. Sanconon, Mr. Stubbs, Vancouver Island Agencies, ship repairs; scow Arc, of Mills and Packers, Vancouver, ship repairs; tug George M. Lindsay, of Vancouver Barge Ltd., Victoria, docking and ship repairs; packer Good Hope, owned by G. Torraville, docking and repairs; ss.



The 1,100. Cu. Yd., Twin Screw, Seagoing Hopper Dredge Sandpiper, Built for Creole Petroleum Corp. by Canadian Vickers, Ltd.

Lake Winnipeg, of Western Canada Steamship Co., ship repairs; ss. Sophia Christianson, Gibson Bros., Vancouver, ship repairs; ss. Waihemo, Canadian Australasian Line, Ltd., ship repairs; C.N.R. barge 107, of Canadian National Rys., repairs; ms. Tahsis Chief, Mills and Packers, Vancouver, docking and propeller repairs.

In addition to the foregoing work, according to official advice of August 14, the company was then converting the steel barge Griffco for the Griffiths Steamship Co., of Seattle and Vancouver, and was also building a 45 ft. steel tug hull for the Gulf of Georgia Towing Co., Vancouver.

On July 5, the company successfully completed and delivered a steel car ferry, the ms. Lloyd-Jones, to the British Columbia Department of Public Works, for service on the Okanagan Lakes between Kelowna and Westbank, B.C.

Fisheries Department Patrol Boats

Two Diesel-powered patrol boats, 68 ft. long over all, built in Shelburne, N.S., for the Department of Fisheries, are now in service and are described hereunder.

The accompanying illustration shows the ms. Limanda, one of two Diesel-engined patrol boats built by Shelburne Shipbuilders, Ltd., Shelburne, N.S., for the Dominion Department of Fisheries, the other boat being named Lacuna. These craft were built to the designs of Messrs. Milne, Gilmore and German, naval architects and marine surveyors, Montreal, with construction supervised by James Harding, veteran of the Nova Scotia shipbuilding trade. The two ships are similar in all particulars, with each powered by two General Motors 6-71 Diesel engines, driving twin propellers through 3:1 reduction gears.



Department of Fisheries Patrol Boat Limanda
This boat, and an identical sister craft, the ms. Lacuna, were built in Shelburne, N.S., the Limanda having been launched November 4, 1949, and the Lacuna on March 18 this year.

Of the raised forecastle type with raking stem and curved transom stern, the boats have a cruising speed of 13.5 knots. They have an overall length of 68 feet, a waterline of 65 feet, a beam of 15 feet, nine inches, and draw five feet when loaded. The decks are fitted with cabin trunks fore and aft, allowing for a spacious saloon built over the engine room aft of a raised wheelhouse. The hulls are divided by four water and gas tight bulkheads into five separate compartments, comprising the chain locker, ratings' quarters and galley (with fuel tanks underneath), machinery space, master's quarters, with steering gear space in the after compartment.

Streamlined underwater fittings, including rudder and stern post, are of bronze. The main engines are controlled from the engine room through telegraph and receivers installed in the wheelhouse and engine room. Special navigation equipment fitted includes a radio, telephone and a direction finder.

Like other Fisheries patrol boats, these two additions to the fleet have names associated with marine life. In fisheries biology, limanda is the genus name for the yellowtail flounder, while lacuna is the name of a small shellfish.

Churchill Grain Traffic

From August 1 to September 7, according to figures from the Dominion Bureau of Statistics (with records for the Western Inspections Division supplied by the Board of Grain Commissioners for Canada), wheat shipments from Churchill totalled 2,963,350 bush., compared with 3,061,624 bush. in the same part of the 1949-1950 crop year. Grain in store at Churchill on September 7 was 1,743,216 bush. wheat and 430 bush. oats. A Churchill press dispatch of September 23 said that the freighter Montsandra was sailing from there with 370,000 bush. wheat, this being the sixteenth sailing of a grain carrying ship in the 1950 season. One ship, the British freighter Tricape, was reported as entering Churchill, September 13, on her second trip of the season, she having been the first ship to make two trips this season.



Mr. Gordon's First Inspection of a Canadian National Steamships, Ltd., "Lady" Liner
The illustration above, prepared from a photograph taken on the bridge of the ss. Lady Rodney, on the occasion of the first official inspection of a "Lady" ship by the C.N.R. Chairman and President, Donald Gordon, C.M.G., shows from left to right, W. T. Wilson, Special Assistant, Personnel Department; V. E. Eke, Passenger Traffic Manager; W. S. Thompson, Director of Public Relations; W. Adie, Superintendent Engineer; Capt. D. McLeod, Marine Superintendent; H. C. Friel, K.C., General Solicitor; Capt. R. A. Clarke, General Manager; M. A. Metcalf, Vice President and Executive Assistant; Mr. Gordon; Capt. Anaclet LeBlanc, Master of ss. Lady Rodney; J. A. Sauve, Assistant General Manager, and J. M. Gauthier, Freight Traffic Manager.

Canadian Pacific Steamships

C.P.R. B.C. Coast Service

In the Canadian Pacific Ry. British Columbia Coast Steamship Service, according to official advice of September 13, the ss. Princess Kathleen, following arrival at Vancouver from Skagway on August 26, proceeded deadhead to Victoria, where she was withdrawn from service until next summer, her final cruise for this season having been cancelled on account of the strike of seamen on the Pacific coast.

The ss. Princess Norah, following arrival at Vancouver from Skagway on August 28, also proceeded deadhead to Victoria and was withdrawn from service until next summer; her last two voyages for this season were cancelled on account of the strike.

The ss. Princess Victoria was laid up at Victoria at the date of our advice, having been permanently withdrawn from service on August 24.

Cruises Scheduled for ss. Empress of Scotland

In the '30's, the C.P.R. won an enviable reputation for its steamship cruises to all parts of the world, and the company is re-entering the cruise field during the coming winter with its beautifully appointed ss. Empress of Scotland, flagship of the Canadian Pacific Steamships, Ltd., fleet, the ship being scheduled to make a series of seven voyages from New York to southern ports. H. B. Beaumont, Steamship Passenger Traffic Manager, C.P.R., announced the cruise plans early in September, and said that the winter sailings of the ss. Empress of Scotland have been carefully scheduled, to make full use of the extensive prewar cruise experience of the company, including the glamorous world cruises of the old Empress of Britain. The ship will be employed in operating two 12-day cruises and five 14-day ones. While Canada is experiencing the cold of winter, the 26,300-ton ship will be sailing through tropical seas or calling at the historic ports of Kingston, Jamaica; Laguaira, Venezuela; Willemstad, Curacao; Panama, and Havana, Cuba.

Two 12-day cruises, leaving New York on December 22 and January 5, include calls at Kingston, Laguaira and Havana, and will cost from $300 up to $1,243, the latter price being the cost of luxurious suites which are available on the Empress.

The five 14-day cruises leave New York on January 19, February 4, February 20, March 8 and March 24, the cost of these ranging from $385 to $1,430. Calls will be made at Willemstad and Panama in addition to the ports touched on the 12-day cruises.

Before the war, the Empress of Scotland, then the Empress of Japan, was the largest and fastest ship on the Pacific, a smaller edition of the trans-Atlantic Empress of Britain. Last May, following a two-year postwar reconversion job, she entered the trans-Atlantic service between Liverpool, Greenock and Quebec City, and since then, her beautiful interior has made her known as one of the luxury ships of the Atlantic.

The ship's dining room with its oval windows, mirrors and teak woodwork, will be fully air-conditioned before the cruises begin, while the entire ship, designed for travel in tropical seas, has controlled ventilation.

For the cruises, the ship will have outdoor and indoor swimming pools, a lido deck for sunbathers, where buffet meals will be served on tables sheltered by umbrellas from the sun, and other attractive features. Buffet meals will also be served on the glass-enclosed promenade deck.

Also available for days of relaxation at sea will be the ship's beautifully-

(Continued on next page)

More Naval Ships Ordered

On September 22 awarding of government naval contracts totalling $43,250,000 was announced. These cover four anti-submarine vessels, four gate vessels and 10 minesweepers.

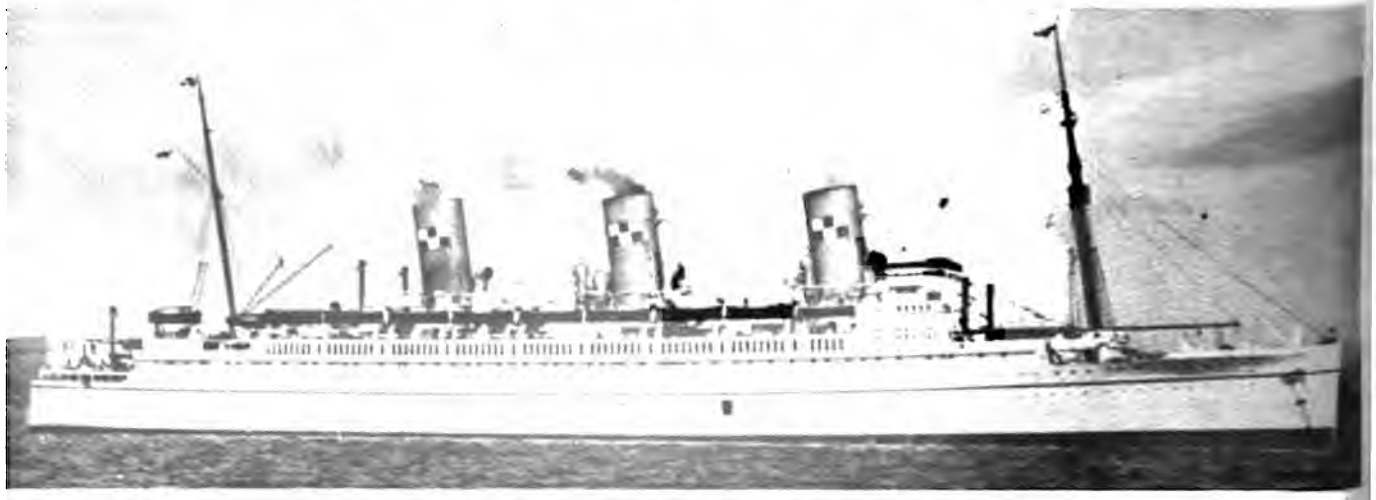
Contracts totalling $43,250,000 have been awarded to Canadian shipbuilding firms for naval craft, according to announcement of September 22. These orders follow those placed for nine ships, at aggregate cost of $28,200,000, early this year.

The contracts announced September 22 were:—Four anti-submarine ships, $8 million each, one each to Burrard Dry Dock Co., Ltd., North Vancouver; Canadian Vickers, Ltd., Montreal; Marine Industries, Ltd., Sorel; Halifax Shipyards, Ltd., Halifax.

Four gate vessels, at $500,000 each, one each to Victoria Machinery Depot, Ltd., Victoria; Burrard Dry Dock Co., Ltd., North Vancouver; George T. Davie and Sons, Ltd., Lauzon; Pictou Foundry and Machine Co., Ltd., Pictou, N.S.

Ten Influence type minesweepers at $925,000 each, to Yarrows, Ltd., Victoria; Victoria Machinery Depot Co., Ltd.; Port Arthur Shipbuilding Co. Ltd.; Midland Shipyards, Ltd.; Canadian Vickers, Ltd.; Davie Shipbuilding and Repairing Co., Lauzon (two); George T. Davie and Sons, Ltd.; Marine Industries, Ltd.; Saint John Dry Dock Co., Ltd.

Original Contract — The orders placed earlier this year were for three anti-submarine vessels, one each to Burrard Dry Dock Co. Ltd., Halifax Shipyards, Ltd., and Canadian Vickers, Ltd.; one icebreaker to Marine Industries, Ltd.; four minesweepers, one each to Port Arthur Shipbuilding Co., Ltd., Davie Shipbuilding and Repairing Co., Ltd., Saint John Dry Dock Co., Ltd., and Victoria Machinery Depot Co., Ltd.; one gate vessel to George T. Davie and Sons, Ltd.



Ss. Empress of Scotland Going into Cruise Service this Winter.
This luxuriously-appointed 26,000-ton ship of Canadian Pacific Steamships, Ltd., is to provide a series of seven cruises from New York to southern waters, during the coming winter.

(C.P.S.—From page 582)

decorated private rooms—the high-ceilinged long gallery; the teak-pillared main foyer; the Empress Room for movies and dancing; the French Empire Lounge; the smart cocktail room, stretching the width of the ship and with windows on three sides; the card room, and the quiet library and writing room. Outdoors are the sun deck, boat deck, lido deck and promenade deck, the latter being glass-enclosed its full length for comfort on cool days.

Traditional Canadian Pacific service and cuisine will be combined on the cruises with experience gained before the war in operating cruises around the world, to the Caribbean and Mediterranean, to the Norwegian Fjords, and to South America and Africa.

Interesting sight-seeing tours have been arranged for each port, including an all-day tour of the Panama Canal zone.

New July Canal Traffic Record

The freight tonnage passing through the Canadian canals as a whole in July this year, 3,628,783, represented an increase of 573,822 tons, or 18.8%, over the July, 1949, tonnage of 3,054,961. The tonnage for July this year established a new record for the month, the previous high record, made in July, 1943, having been 3,436,263 tons. There were 3,796 ship passages through the canals in July this year, compared with 3,220 in July, 1949. Passengers handled through the canals decreased from 23,356 in the month last year to 21,862, largely because of the cessation of the historic rapids service on the St. Lawrence this season.

Sault Ste. Marie Canals-Canadian and United States Locks.—Freight handled eastbound through the Canadian lock at Sault Ste. Mare in July this year was 172,640 tons, compared with 274,750 tons in July, 1949, while that handled eastbound through the combined Canadian and United States locks in the month this year was 15,860,643 tons, compared with 14,258,823 tons in the 1949 month. The eastbound iron ore traffic through the combined locks decreased from 13,128,230 tons in July, 1949, to 13,049,319 tons in the month this year. Westbound, freight handled through the Canadian lock at Sault Ste. Marie increased slightly in the month this year, viz., from 105,183 tons in the 1949 month to 111,414 tons and westbound freight through the combined Canadian and U.S. locks was up very substantially, viz., from 1,326,498 tons in July, 1949, to 2,335,943 tons in the month this year. The westbound soft coal traffic was up in large measure, viz., from 840,981 tons in the 1949 month to 1,763,091 tons. Total freight handled through the Canadian lock, eastbound and westbound, was 284,054 tons in July this year, compared with 379,933 tons in the 1949 month, and total freight traffic through the combined Canadian and U.S. locks, eastbound and westbound, was 16,196,586 tons in July this year, compared with 15,585,321 tons in the 1949 month. Ship passages through the Canadian lock in both directions were up from 766 in July last year to 836, but those through the combined locks decreased from 3,834 in the 1949 month to 3,393.

Welland Ship Canal.—Total freight traffic through the Welland Ship Canal in July this year was 1,850,703 tons, compared with 1,653,594 tons in July, 1949. Ship passages through this canal were up from 905 in the 1949 month to 1,049. Following is the record of freight through the Welland Ship Canal, in tons, in July, this year and last:—

	Month of July, 1950	1949
Barley	11,632	20,939
Corn	121,453	16,287
Oats	13,467	6,720
Rye	...	24,378
Wheat	336,954	328,128
Flour	6,299	2,980
Gasoline	65,578	95,890
Petroleum and other oils	191,091	166,779
Sugar	6,746	4,653
Pulpwood	91,719	96,231
Autos and parts	344	576
Paper	35,222	32,945
Wood pulp	4,830	2,533
Soft soal	569,407	318,838
Coke	3,758	13,046
Iron ore	173,637	342,044
Sand	43,790	21,350
All other freight	174,776	157,277
Total freight	1,850,703	1,653,594

St. Lawrence Canals.—With ship passages through the St. Lawrence canals up from 1,120 in July last year to 1,475 in the month this year, total freight through these canals increased from 955,246 tons to 1,428,693 tons, some of the most substantial commodity increases having been:—Wheat, from 207,901 tons to 347,514 tons; petroleum and other oils, from 92,953 tons to 163,413 tons; pulpwood from 73,210 tons to 120,452 tons; soft coal, from 155,749 tons to 258,965 tons. Following is the record of the freight traffic, in tons, through the St. Lawrence canals, in July, this year and last:—

	Month of July, 1950	1949
Barley	7,110	8,811
Corn	85,176	8,915
Oats	10,817	1,216
Rye	...	26,106
Wheat	347,514	207,901
Flour	4,554	2,980
Gasoline	145,967	123,884
Petroleum and other oils	163,413	92,953
Sugar	3,991	4,539
Pulpwood	120,452	73,210
Autos and parts	1,005	866
Paper	21,937	16,777
Wood pulp	5,106	2,533
Hard coal	16,365	7,712
Soft coal	258,965	155,749
Sand	48,492	41,070
All other freight	187,829	180,024
Total freight	1,428,693	955,246

Other Canals and Total.—Figures recording the traffic through other canals in the Canadian system, and through Canadian canals as a whole, in July, this year and last, appear in the accompanying two-column table.

The figures in this review were furnished by the Dominion Bureau of Statistics, Transportation Division. Take in 6 pt. 2 col. table

Traffic through Canals other than Sault, Welland Ship and St. Lawrence, and through All Canadian Canals Combined, July, 1950 and 1949

	Ottawa River Canal		Rideau Canal		Richelieu River Canal	
	1950	1949	1950	1949	1950	1949
Ship passages No.	156	149	33	46	106	135
Registered Tonnage Tons	48,381	47,445	796	1,584	16,053	17,336
Passengers No.	...	...	1/2/153	221	4	24
Total Freight Tons	42,519	42,262	95	285	17,587	18,075
Measure Craft	1,047	1,486	6,258	6,429	...	...
	Trent Canal		Murray Canal		St. Peter's Canal	
	1950	1949	1950	1949	1950	1949
Ship passages No.	18	341	12	6	86	91
Registered Tonnage Tons	249	...	6,997	2,937	3,521	4,544
Passengers No.	...	...	...	...	33	33
Total Freight Tons	247	...	2,744	...	848	991
Measure Craft	4	7,084	346	...	5	4
			St. Andrew's Canal		All Canadian Canals	
			1950	1949	1950	1949
Ship passages		 No.	25	104	3,796	3,220
Registered Tonnage		 Tons	3,511	16,260	3,408,573	3,035,053
Passengers		 No.	198	889	21,862	23,356
Total Freight		 Tons	1,293	4,580	3,628,783	3,054,961
Measure Craft			24	116	7,684	15,119

(1) Exclusive of 4,756 passengers on sightseeing pleasure cruise boats.
(2) Exclusive of 17,731 passengers on pleasure craft.

Davie Shipbuilding and Repairing Co., Ltd.

On August 27, Davie Shipbuilding and Repairing Co., Ltd., Lauzon, Levis, Que., completed the work of repairing grounding damage suffered by the ss. Franconia when she ran aground in the St. Lawrence River.

Other recent work included the dry-docking and repairing of bow damage to the ss. Hurworth and side damage to the ss. Agathi.

On August 23 the company laid the keel for the construction of a Diesel-powered tug.

C.S.L. Ss. Quebec

The Canada Steamship Lines, Ltd. ss. Quebec, on which the fire occurred on the St. Lawrence River, was built in 1928 at Lauzon, Quebec., with dimensions as follows:— 350.1 ft. long, 70 ft. wire and 18.8 ft. deep with tonnage of 7,016 gross and 4,143 registered.

A formal investigation into the outbreak of fire on the ss. Quebec, ordered by the Department of Transport, began at the Court House, Quebec City, September 18, with Mr. Justice Fernand Choquette, of the Quebec Superior Court, presiding, and with two nautical and one engineer assessors.

Manufacturers and Suppliers

American Car and Foundry Co.

Recent announcement by Charles J. Hardy, Jr., President, American Car and Foundry Co., is that John C. Coonley has been appointed Manager of the company Valve Division. Mr. Hardy's announcement states:—"Mr. Coonley succeeds W. R. Kottsieper, who is retiring after more than 44 years of service with ACF. He will continue to make his headquarters in Detroit where ACF valves are manufactured in large quantities at its local ACF plant.

"Mr. Coonley brings to ACF a wealth of experience in valve and machine tool design. He was with the Walworth Company as salesman, engineer and tool design superintendent for many years prior to coming to ACF in June of this year as assistant manager of the valve division.



C. A. Morrison,
Assistant to President, Canadian General Electric Co., Ltd.

Mr. Hardy also announces that F. T. Richardson has been appointed Director of Public Relations, succeeding Arthur Tuckerman, who is retiring from business in order to resume his former profesion of free lance writer for American and foreign publications. Mr. Richardson entered the company's service as public relations assistant in 1947. Prior to that he had served as Captain in the United States Army Transportation Corps and was Rail Traffic Regulating Officer in the Philippines. He was educated at Rensselaer Polytechnic Institute, and before the war was employed for five years in the public relations department of the Illinois Central Rd. in Chicago.

Canadian General Electric Co., Ltd.

C. A. Morrison has been appointed Assistant to the President, Canadian General Electric Co., Ltd., according to a recent announcement by H. M. Turner, President.

Mr. Morrison has had very broad managerial experience with the company from coast-to-coast. His most recent appointments have been as District Manager at Halifax, and, since 1947, at Vancouver.

He graduated in 1927 from the University of Toronto with a degree of B.Sc. in electrical engineering. After a period of service in the Operating Department of Hydro-Electric Power Commission of Ontario and as a lecturer in the Department of Engineering Physics at the University of Toronto, he joined C.G.E in 1930.

He entered the company's Lighting Service Department, became Lighting Service Engineer, Montreal, in 1931, and was appointed Manager of the Lamp Division, Montreal, three years later. He is a member and Past Chairman of the Illuminating Engineering Society (Montreal Chapter), and a member of the Engineering Institute of Canada. He is a native of Arthur, Ont.

Canadian Johns-Manville Co., Ltd.

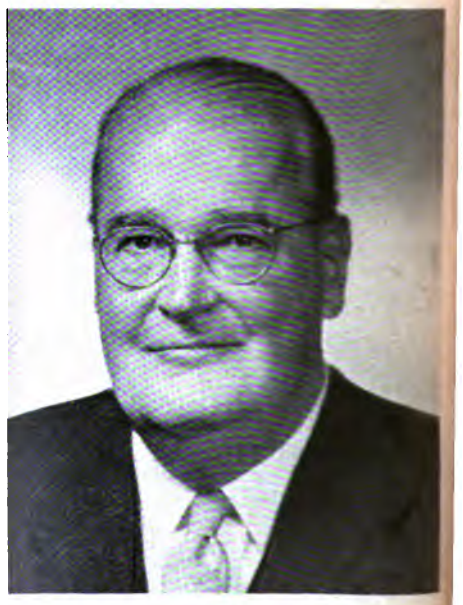
Recent advice from Canadian Johns-Manville Co., Ltd., is that the company now has available throughout Canada its "S-W" facing, a new clutch facing developed by the Johns-Manville Research Laboratory. The new facing is designated "S-W" because it is a special wound facing, made of asbestos-metallic yarns. It is the product of new manufacturing techniques which make it possible to match the specific clutch action of any clutch design. The new facing offers flexibility desirable in handling during installation. Other advantages are said to include:—Less variations in torque under a wide range of temperature and load conditions; minimum chatter in all engagements—forward or reverse; longer, trouble-free life and improved "cushion" clutch action in service. It is further stated:— " 'S-W' Facing has the lowest rate of wear combined with excellent quality and appearance. Its "eye-appeal" is distinctive. Not only is the winding of the asbestos-metallic yarn close and uniform, but also, through improved factory-precision molds, the edges are clean and smooth. The quality of this Johns-Manville Spiral Wound facing is controlled in all stages of its manufacture from the raw asbestos to the finished product. All points of quality and performance have been proved under exhaustive laboratory and road tests."

Canadian Westinghouse Co., Ltd.

Recent official advice is that the third biennial Materials Handling Conference, sponsored by Westinghouse Electric Corp., is to be held in Buffalo, N.Y., October 24 and 25. The first six sessions will be held at the Hotel Statler, while the programme on the second day will be presented at the Westinghouse Buffalo plant.

On the first day, there will be an address by E. R. Frost, Director of Materials Handling, Fisher Body Division, General Motors Corp., on "Coordination of Engineering and Materials Handling in the Fisher Body Division, General Motors Corporation"; one by H. H. Hall, of the Aluminum Co. of America, on "Classification of Materials Handling Factors"; one by F. R. Benedict, of Westinghouse, Pittsburgh, on "The Influence of Materials on Future Design", and one by F. A. Miller, of E. I. DuPont de Nemours and Co., Inc., on "Tiering from Overhead at Dupont". There will be several other instructive papers presented on the first day of the conference, and the film "Yours to Command" will be shown by R. C. Sollenberger, Secretary, Conveyor Equipment Manufacturers' Association, Washington, D.C.

On the second day of the conference, several addresses will be presented at the meeting at the Westinghouse plant, and following luncheon there will be informal trips through the plant. In the evening, a reception will be held at the Hotel Statler, to be followed by a dinner at which the guest speaker will be A. T. Gaudreau, Syracuse, N.Y., a consulting engineer in management, production, cost, plant layout and materials handling, active in materials handling division of the ASME and co-author of the book "Plant Layout Engineering" which is to be published soon by John Wiley and Son, Inc.



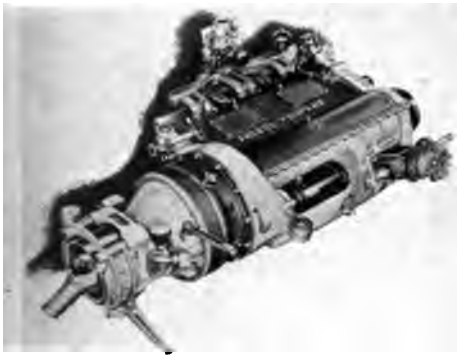
Fabian Bachrach Photo
Maurice N. Trainer,
President, Dominion Brake Shoe Co., Ltd., who has been elected President of the parent company, American Brake Shoe Co.

Dominion Brake Shoe Co., Ltd. — American Brake Shoe Co.

Maurice N. Trainer, President, Dominion Brake Shoe Co., Ltd., Canadian subsidiary of American Brake Shoe Co., of which he served as First Vice President, was elected President of the parent company at the board meeting held September 13, in New York. Mr. Trainer succeeds William B. Given, Jr., who was elected Chairman of the Board after serving as President for 21 years.

Mr. Trainer joined Brake Shoe in 1916 as an inspector, and gradually moved up through the sales and sales engineering departments of the company. He was instrumental in adapting the company's long experience in railroad braking to the development of brake materials for the automotive industry.

Dominion Brake Shoe Co., Ltd., operates plants at Joliette, Quebec, Lindsay and Niagara Falls, Ontario.



One of the Fageol Products Co. Engines Employing Propane Fuel
These engines, of basic design, with all major parts interchangeable, are built in four models of from 162 to 250 b.h.p.

Fageol Products Co.

A complete line of commercial engines to operate on propane fuel, comprising four models of from 162 to 250 b.h.p., all built around one basic design with all major parts interchangeable, is announced by Fageol Products Co., Kent, O., Twin Coach Co. subsidiary. The company President, L. J. Fageol, states that these engines are the world's first production units to be announced for use with 125 octane propane, and that their availability is expected to greatly increase the use of propane by truck operators, boat builders, construction equipment manufacturers and others. Propane, Mr. Fageol states, is the lowest priced engine fuel in America, is available in unlimited quantities and provides economy of operation previously impossible. He states that savings up to 40%, compared with gasoline or Diesel oil, are commonly reported.

The engines are available for horizontal or vertical mounting, right or left hand installation and clockwise or counter-clockwise rotation. The propane engines are logical companion products of the Fageol high compression gasoline engines introduced in 1945, Mr. Fageol points out. More than 5 000 of these gasoline engines are now in service, and the propane engines utilize many of the same working features, with parts commonly interchangeable. The expectation of the builders is that the propane engines will find their chief use in trucks, buses, construction and maintenace equipment, marine craft, saw mills, lumber yards, generators, drill rigs, rock crushers, feed mills, irrigation pumps, hoists, sand pumpers and in all types of portable and stationary industrial applications.

Fitzjohn Coach of Canada Ltd.

F. W. Feeney, President, Fitzjohn Coach Co., and Fitzjohn Coach of Canada, Ltd., announces that J. J. Hickey, Toronto, has been appointed Service Parts Manager, Fitzjohn Coach of Canada, Ltd., Brantford, Ont. Mr. Hickey is a brother of B. J. Hickey, the company's Sales Representative. The Parts and Service Department is a division of the newly-created Canadian Fitzjohn plant, which was recently completed. Now Fitzjohn coach owners in Canada no longer have to get parts and service from the Fitzjohn Coach Co. factory at Muskegon, Mich., but will get quicker service from Brantford.

General Motors Products of Canada Ltd.

There was held in Oshawa during the summer a week-long sales convention of the United Motors Service Division of General Motors Products of Canada, Ltd. The keynote of the meeting was the strengthening of support to wholesale accounts. With a practical bearing on the sales techniques required for a changing market, the programme offered field representatives throughout Canada such topics as "Creative Salesmanship," "The Holding of Group Sales Meetings," and "The Responsibility of the Field Organization." Delegates received first-hand introductions not only to the products of the division,



Photo by Nott and Merrill
E. W. Hayter,
Marketing and Advertising Manager, The Goodyear Tire and Rubber Co. of Canada Ltd.



A Group at the Recent National Sales Convention of the United Motors Service Division, General Motors Products of Canada, Ltd.
Those appearing are identified as follows:—Front Row (kneeling): A. Hillmer; C. B. Theberge; M. G. Coates; S. D. Ballard; S. B. Hester; W. J. McMonagle, all U.M.S., Oshawa. Second Row: B. Toy—Toronto; L. Ethier—Quebec City and Eastern Quebec; G. S. Pollard—Ottawa Valley; L. Forbes—Vancouver and B.C.—Third Row: P. F. Dunn—Service Engineer, Western Canada; G. E. Bean—Quebec Province; W. W. Floyd—City of Montreal; C. B. Hinton—Northern Ontario;R. E. Prangley—Western Ontario; L. V. Hutt—Maritimes and Newfoundland.—Fourth Row: T. L. Daniel—Alberta; F. G. Field—Manitoba; F. B. Gordon—Saskatchewan; H. Wilkinson—U.M.S., Oshawa; T. H. Smith—Service Engineer, Eastern Canada; E. C. Cook—U.M.S., Oshawa.—Standing, left: H. H. Hobbs—Products Service Department, Oshawa; right, T. E. Shepherd—Central Canada, Service Engineer.

but to the men who prepare the overall sales strategy. During the meeting, frequent opportunities were offered for open forums, to discuss every phase of division operation, each of these having been conducted under the chairmanship of individual representatives of the division. Many of those who attended the convention appear in an accompanying illustration, with each identified in the caption.

The Goodyear Tire and Rubber Co. of Canada, Ltd.

Recent announcement by C. B. Cooper, General Sales Manager, The Goodyear Tire and Rubber Co. of Canada Ltd., is that E. W. Hayter has been appointed Marketing and Advertising Manager; that A. E. Ross has been appointed Assistant Manager, Advertising Department; that W. G. Britt has been appointed Sales Promotion Manager, and that C. R. Little has been appointed Supervisor, Mechanical Rubber Goods Department. Mr. Hayter continues to be responsible for advertising and sales promotion, while his new appointment gives him overall responsibility in sales direction, particularly in the fields of market research, distribution and personnel.

Independent Pneumatic Tool Co.

A new, low-priced, 6 in. Thor Portable electric saw, with the same heavy duty construction and exclusive features as included in larger and higher priced models in the company's new "Silver Line", is announced by Independent Pneumatic Tool Co., Toronto. The new portable saw presents many features, including a long shaft transverse motor mounting for extra power and longer life; die cast aluminum housings, a built-in blower, which blows from the inside and keeps the cutting line clear and the motor free from dust; finger-tip control for depth and bevel cuts, and other features. The new tool is described in the company's circular JE-1259.



Photo by Nott and Merrill

A. E. Ross,
Assistant Manager, Advertising Department, The Goodyear Tire and Rubber Co. of Canada, Ltd.

Mack Trucks, Inc.

Recent announcement by E. D. Bransome, Chairman and President, Mack Trucks, Inc., is that Lester E. Reeve has joined the Mack organization as Mr. Bransome's special assistant on financial matters. Mr. Reeve, a graduate of Dartmouth College, was formerly with Lazard Freres and Co.



Charles P. Madely,
Manager of Industrial Sales, Montreal Locomotive Works, Ltd.

Montreal Locomotive Works, Ltd.

A recent announcement by Sir Frederick Carson, Executive Vice President, Montreal Locomotive Works, Ltd., was that Charles P. Madely has been appointed Manager of Industrial Sales for the company, this being a new position, resulting from the company's decision to build a wide range of industrial machinery and steel products as well as Diesel-electric locomotives. Mr. Madely was formerly Plant Manager. He entered C.P.R. service in 1923 and served his apprenticeship in the C.P.R. Mechanical Department shops and drafting offices. He joined Montreal Locomotive Works in 1937 as a draftsman and became Chief Draftsman in 1942. In 1943 he became Engineer in charge of Tank Design, in the tank arsenal, and in the same year was appointed Co-ordinator of Purchasing, Material, Engineering and Production. He became Assistant Vice President of the M.L.W. tank arsenal in 1944, and later in the same year was appointed Works Manager. Following termination of the war in 1945, he returned to the Locomotive Division of the company as Assistant Works Manager, and became Works Manager in 1946.

With the company no longer building steam locomotives, its plant has approximately $5 million worth of heavy machinery which can be converted readily to turning out a wide variety of metal products.

Samuel Moore and Co.

Recent announcement by Sam Moore, President, Samuel Moore and Co., manufacturer of Rub-Bub transportation products, is that Bradford Burnham has been appointed Manager of the Government Contract Department of the company. Mr. Burnham's new responsibilities include all engineering, priorities, material procurement, expediting, scheduling, and deliveries involving government contracts. With the company for several years, he has served as exclusive New York representative and most recently as Assistant Sales Manager. He is being succeeded as Assistant Sales Manager by James F. Rogers, formerly the company's southwestern sales representative.

National Steel Car Corp., Ltd.

The 30th annual report of National Steel Car Corp., Ltd., for the fiscal year ended June 30, 1950, submitted to the shareholders on behalf of the directors over the signature of Hugh N. Baird, Chairman, first expresses the sorrow of the directors in recording the death of Glyn Osler, K.C., who served as a director from August 23, 1928, and who died November 11 last. Reviewing the operations of the fiscal year, it is recorded that the operating profit was $2,302,044.15. After deducting the remuneration of executive officers and directors' and legal fees, and adding income from investments and profit from disposal of fixed assets and investments, the profit for the year, before depreciation, depletion and income tax, was $2,486,869.03, compared with $3,591,485.58 in the preceding fiscal year. After provision of $258,818.49 for depreciation of buildings, machinery and equipment and depletion of timber properties, compared



Bradford Burnham,
Manager, Government Contract Department, Samuel Moore and Co.

with $220,083.92 in the 1948-49 year, and provision of $879,700 for Dominion income tax and excess profit taxes and provincial income taxes, compared with $1,304,400 for the previous year, the net profit for the year was $1,348,350.54, compared with $2,067,001.66 for the year ended June 30, 1949.

Current assets at June 30, 1950, amounted to $12,184,236.55. Current liabilities were $1,885,012.23, leaving net current assets of $10,299,224.32, compared with net current assets of $10,057,106.76 at June 30, 1949, being an increase of $242,117.56.

The report notes that inventories of raw materials, supplies, work in process and finished stock, amounting to $2,252,995.78, were to cover orders on hand, and also notes that during the year inventories were reduced by $909,695.10, consistent with the policy of the company. It was said that orders on hand would keep the company employed until shortly after the end of the calendar year 1950, and the report then stated:—"We belive the railway companies will be interested in additional equipment of diversified types, passenger and freight, to provide for continued business expansion throughout the country.

"In the industrial field, indications point to important developments and the need of miscellaneous equipment. Because of this, we are looking forward to a substantial volume of business for an extended period, always governed, however, by the flow of materials, steel and lumber especially and which are likely to be in rather tight supply.

"Your property has been well maintained and is being efficiently and economically operated.

"On behalf of the directors, I express sincere thanks to the employees for diligent and faithful attention to their duties throughout the period under review."

The consolidated statement of earned surplus shows a balance at June 30, 1949, of $8,025,947.79. After deduction of the special dividend paid on October 31, 1949, which required $351,000, there remained $7,674,947.79, and addition of the net profit for the 1949-1950 year brought the amount to $9,023,298.33. Deduction of $1,053,000, covering other dividends declared during the year, left the balance at June 30, 1950, at $7,970,298.33.

ASSOCIATIONS, CLUBS, MEETINGS

The names of the persons mentioned are those of the secretaries, unless otherwise stated

Air Industries and Transport Association of Canada—R. N. Redmayne, 610 Blackburn Bldg., Ottawa. Annual meeting, October, 1950.

Air Transport Association of America—M. F. Redfern, 1107 Sixteenth St., N.W., Washington.

American Association of Baggage Traffic Managers—E. P. Soebbing, 1450 Railway Exchange Bldg., St. Louis, Mo.

American Association of Passenger Traffic Officers—B. D. Branch, Secretary-Treasurer, 143 Liberty St., New York 6. Annual meeting, Havana, Cuba, October 24-27, 1950.

American Association of Port Authorities—Paul A. Amundsen, 815 Washington Bldg., Washington 5, D.C.

American Association of Railroad Superintendents—Miss Elise LaChance, 431 S. Dearborn St., Chicago, 5.

American Railway Bridge and Building Association—Miss Elise LaChance, 431 S. Dearborn St., Chicago, 5.

American Railway Development Association — E. L. Beardsley, Secretary-Treasurer, The D & RGW RR. Company, P.O. 2040, Denver 1, Colo.

American Railway Engineering Association—N. D. Howard, 59 E. Van Buren St., Chicago, 5. Annual meeting, March 13-15, 1951.

American Society for Testing Materials—C. L. Warwick, 1916 Race St., Philadelphia 3, Pa. Annual meeting, June 18-22, 1951, Atlantic City, N.J.

American Society of Mechanical Engineers—Railroad Division Chairman, K. A. Browne, Chesapeake and Ohio Ry. Co., 3306 Terminal Tower, Cleveland 1, O. Secretary, E. L. Woodward, Western Mechanical Editor, Railway Age, 79 Monroe St., Chicago 3. Annual meeting, November 28-29, 1950, Hotel Statler, New York, N.Y.

American Society of Tool Engineers—J. M. Cannon, Director of Public Relations, 523 Penobscot Bldg., Detroit, 26, Mich.

American Transit Association—A. W. Baker, 292 Madison Ave., New York 17, N.Y.

American Wood-Preservers Association—H. L. Dawson, 839 17th St. N.W., Washington 6. Annual meeting, April 25-26, 1951, Chicago, Ill.

Association of American Railroad Dining Car Officers—W. F. Ziervogel, 605 S. Rankin Ave., St. Louis 3, Mo.

Association of American Railroads—Headquarters, Washington, 6, D.C.—Officers: W. T. Faricy, President; J. Carter Fort, Vice President and General Counsel; G. M. Campbell, Secretary-Treasurer, and Operation and Maintenance Dept.—J. H. Aydelott, Vice President, Washington, 6.
Operating—Transportation Division, L. R. Knott, Executive Vice Chairman, 59 East Van Buren St., Chicago 5.
Operating Section, J. C. Caviston, 59 East Van Buren St., Chicago.
Transportation Section, H. A. Eaton, 59 E. Van Buren St., Chicago.
Communications Section, A. H. Grothmann, 59 East Van Buren St., Chicago.
Fire Protection and Insurance Section, W. E. Todd, 59 E. Van Buren St., Chicago.
Freight Station Section, W. E. Todd, 59 E. Van Buren St., Chicago.
Medical and Surgical Section, J. C. Caviston, 59 East Van Buren St., Chicago.
Protective Section, J. C. Caviston.
Safety Section, J. C. Caviston.
Freight Loading and Container Section, G. H. Ruhle, 59 E. Van Buren St., Chicago.
Engineering Division, Neal Howard, 59 E. Van Buren St., Chicago.
Construction and Maintenance Section, Neal Howard.
Electrical Section, Neal Howard.
Signal Section, R. H. C. Balliet, 59 East Van Buren St., Chicago.
Mechanical Division, Fred Peronto, 59 E. Van Buren St., Chicago.
Electrical Section, Fred Peronto.
Freight Claim Division, Lewis Pilcher, Executive Vice Chairman, 59 E. Van Buren St., Chicago.
Motor Transport Division, G. M. Campbell, Washington.
Car Service Division, A. F. Swinburne, Executive Assistant, Washington.
Bureau of Explosives—D. M. Grant, Inspector, lines east of Port Arthur, 342 Union Station, Toronto 1.
Finance Accounting, Taxation and Valuation Dept., E. H. Bunnell, Vice President, Washington.
Accounting Division, E. R. Ford, Washington.
Purchases and Stores Division, W. J. Farrell, Executive Vice Chairman, Washington, 6.
Treasury Division, E. R. Ford.
Traffic Dept., W. J. Kelly, Vice President, Washington.
Bureau of Railway Economics—J. H. Parmelee, Vice President and Director, Washington.
Public Relations Department—R. S. Henry, Vice President, Washington.

Association of Railway Claim Agents—F. L. Johnson, Gulf, Mobile and Ohio Rd. Co., 104 St. Francis St., Mobile, 13, Ala. Annual meeting, May 2-4, 1951, Biloxi, Miss.

Canadian Automotive Electric Association—J. A. Bennet, Executive Secretary, 159 Bay Street, Toronto, and R. C. Sullivan, Secretary-Treasurer, 7 Dover St., Chatham.

Canadian Automotive Transportation Association—John Magee, Executive Secretary and Director of Public Relations, 146 Wellington St. West, Toronto.

Canadian Car Demurrage Bureau—Eastern Lines: C. H. Thurber, Manager, 885 Lagauchetiere St. West, Montreal.—Western Lines: J. T. Corrie, Manager, Winnipeg.

Alberta Motor Transport Association — J. Taylor, 1411 2nd St. East, Calgary.

Automotive Transport Association of British Columbia—G. L. Buckman, 810 Dominion Bank Bldg., Vancouver.

Manitoba Automotive Transportation Association—M. M. Wocks, 118 McDonald Ave., Winnipeg.

Automotive Transport Association of Ontario, Inc., J. O. Goodman, 146 Wellington St. W., Toronto. Annual meeting, October 25-26, 1950, Royal York Hotel, Toronto.

Automotive Transport Association of Quebec—Camille Archambault, 1670 Parthenais St., Montreal.

Saskatchewan Motor Transport Association—Angus A. Mitchell, 6 Victoria Park Bldg., Regina.

TENDERS FOR ESCALATORS YONGE STREET SUBWAY CONTRACT SE-1

Sealed tenders, endorsed "Tenders for Escalators for Yonge Street Subway, Contract SE-1" will be received by the Toronto Transportation Commission at its office, 35 Yonge Street, Toronto, until 12 noon, Eastern Standard Time, On Thursday, November 30th, 1950.

The work for which such tenders are invited consists of the supply and installation of 12 escalators at specified locations on the Yonge Street Subway, as described in the Requirements for Tendering and Instructions to Tenderers.

All tenders must be made upon blank forms of tender as prepared by the Toronto Transportation Commission and included in the Contract Documents, and shall be made in accordance with the provisions contained in said documents.

The successful tenderer will be required to furnish, execute and deliver to the Commission a performance bond satisfactory to the Commission in the amount and within the time set out in the Contract Documents.

The Contract Documents, including site plans and specifications, are on file and may be obtained by tenderers at the office of the Toronto Transportation Commission, 35 Yonge Street, Toronto.

Each tender must be accompanied by cash or a certified cheque on a chartered bank doing business in the City of Toronto, in the amount of Ten Thousand Dollars ($10,000.00) payable to the order of the Toronto Transportation Commission.

The Toronto Transportation Commission reserves the right to reject any or all tenders and to disregard any informalities in the tenders or tendering.

WM. C. McBRIEN, Chairman,
TORONTO TRANSPORTATION COMMISSION.

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Canadian Freight Association—
Eastern Lines: G. F. Smith, Chairman, Room 108, 276 St. James St. West, Montreal.
Western Lines: J. F. Flynn, Chairman, Room 44, C.P.R. Office Bldg., Winnipeg.

Canadian Industrial Traffic League—H. A. Mann, 13 Adelaide St. E., Toronto, General Secretary. Divisional Secretaries:—British Columbia, T. H. Whitson, Pacific Mills, Ltd., Vancouver; Ontario, S. V. Musselwhite, Victory Mills, Ltd., Toronto; Prairie, J. Scarfe, Security Storage Ltd., Winnipeg, Man.; Quebec, A. J. Binnie, Dominion Tar and Chemical Co., Montreal. District Secretaries:—Essex-Kent, R. Scott, Canadian Industries, Ltd., Windsor, Ont.; Niagara Peninsula, W. J. Farr, McKinnon Industries, Ltd., St. Catharines. Annual meeting, Royal York Hotel, Toronto, February 12-13, 1951.

Canadian Passenger Association — Eastern Lines: C. J. Campbell, Vice Chairman, 437 St. James St., Montreal. Western Lines: Roy H. Powers, Vice Chairman, 320 Union Station, Winnipeg.

Canadian Passenger and Ticket Agents Association—R. L. Armstrong, C.P.R., Royal York Hotel, Toronto.

Canadian Railway Club—P.O. Box 162, Montreal 3, meetings at Mount Royal Hotel, Montreal, second Monday each month, except June, July and August, at 8 p.m.

Canadian Transit Association—J. F. Neild, 35 Yonge St., Toronto.

Dominion Motor Coach Association—R. J. Musgrove, 35 Yonge St., Toronto.

Engineering Institute of Canada—L. Austin Wright, 2050 Mansfield St., Montreal. Annual meeting, May 9-11, 1951, Montreal.

Express Traffic Association of Canada—G. H. Griffin, Manager, 885 Lagauchetiere St. West, Montreal.

L'Association des Proprietaires d'Autobus de Quebec—Wilbrod Bherer, 229 St. Joseph St., Quebec, Que.

Lake Carriers' Association—O. T. Burnham, 905 Rockfeller Bldg., Cleveland, 13, Ohio.

Lake Freight Association—J. Dow, 759 Victoria Square, Montreal.

Marine Club, Toronto—H. L. Rowntree, Secretary-Treasurer, Suite 209, 9 Richmond St. East, Toronto.

Material Handling Society, Montreal—J. G. Pope, % Northern Electric Co., Ltd., P.O. Drawer 6125, Montreal 3, Que.

Motor Truck Club of Toronto—G. Elliot, Canada Cartage Co. Ltd., 14 Cross St., Toronto.

National Association of Motor Bus Operators—A. W. Koehler, 839 17th St. N.W., Washington, 6, D.C.

National Fire Protection Association, including Fire Marshals, Volunteer Fire Company and Railroad Sections—M. R. Freeman, Public Relations Manager, 60 Batterymarch St., Boston, 10, Mass.

Ontario Association of Motor Coach Operators—R. J. Musgrove, 35 Yonge St., Toronto.

Railway Association of Canada—J. A. Brass, General Secretary, 437 St. James St., Montreal. Western Lines: Roy H. Powers, Secretary, 320 Union Station, Winnipeg.

Railway Fuel and Travelling Engineers' Association—L. H. Peters, Secy-Treas. Rm. 1213—139 W. Van Buren St., Chicago, 4, Ill.

Railway Mission of North America—Wm. A. Fuller, 106 Evelyn Crescent, Toronto.

Railway Supply Manufacturers' Association—A. W. Brown, 60 East 42nd St., New York, 17, N.Y.

Shipping Federation of British Columbia—G. E. McKee, General Manager, 45 Dunlevy Ave., Vancouver.

Shipping Federation of Canada — C. T. Mearns, 300 St. Sacrament St., Montreal. Annual meeting, third Wednesday in March.

Toronto Passenger Club—Lyle Michie, Chicago, North Western Ry., Royal Bank Building, Toronto.

Toronto Railway Club—D. L. Chambers, P.O. Box 8, Postal Terminal A, Toronto. Meetings at Royal York Hotel, Toronto, fourth Monday of each month, except June, July and August. Annual meeting, Royal York Hotel, January 21, 1951.

Traffic Club of Hamilton—A. M. Johns, 4 King Street West, Hamilton, Ont. Meetings on second Thursday of each month, October to May. Annual meeting, December 14, 1950.

Traffic Club of Montreal—W. S. McConkey, Hon. Secretary-Treasurer, P.O. Box 433, Montreal. Meetings at Mount Royal Hotel, third Wednesday of each month from October to May. Annual meeting, third Wednesday in May.

Transportation Club of Toronto—W. G. Hamilton, Chief Clerk, Freight Claims Office, C.P.R., Simcoe and Wellington Sts., Toronto. Annual meeting, December 7, 1950, Royal York Hotel, Toronto.

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TRAC... FOR VAN...

Three hundred and eleven Canadian-made Trackless Trolleys will soon be operating on the streets of Vancouver!

Latest repeat order from the B.C.E.R. calls for 55 more Trackless Trolley Coaches for the Pacific Coast city. This marks a further development in the growth of a transportation system that is second to none, and is also an indication of the operator and passenger satisfaction provided by Canadian Car-Brill Trackless Trolleys.

City's fleet increased to above figure by 55 additional Canadian Car-Brill Trackless Trolley Coaches.



Automotive Division

CANADIAN CAR & FOUNDRY COMPANY LIMITED

***Head Office:* Montreal**
***Works:* Fort William, Ont.**

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CHEVROLET Rugged power for the long haul . . . sturdy construction for the roughest going . . . dependable performance at lower cost per mile. That's what Chevrolet Advance-Design trucks offer you. They're built to take it — designed with power and stamina to spare. Chevrolet's extra load capacity, time-tested reliability, and greater comfort and handling ease spell safer, surer, more productive hauling. And don't forget Chevrolet's famous 3-WAY THRIFT—lower cost operation, lower cost upkeep and lowest list prices. No wonder more truck owners choose Chevrolet trucks than any other make . . . no wonder Chevrolet heavy-duty haulers lead the highway truck parade. See your Chevrolet dealer soon!

GENERAL MOTORS PRODUCTS OF CANADA, LIMITED
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TOP-VOLUME PRODUCTION DELIVERS TOP-VALUE FEATURES!

Quicker, easier and quieter in operation, Chevrolet's new 4-SPEED SYNCHRO-MESH TRANSMISSION in 1 ton series and heavier duty models enables the driver to maintain speed and momentum on grades!

Another Chevrolet First, the new SPLINED REAR AXLE HUB CONNECTION on 1½ and 2 ton models ensures added strength and greater durability in heavy hauling.

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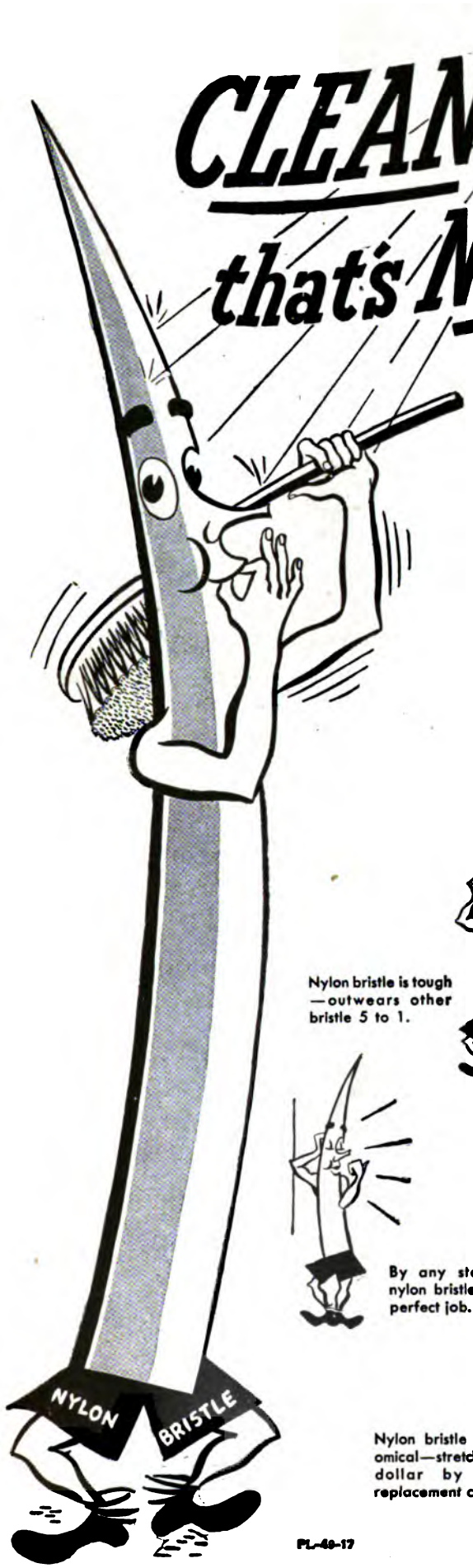
*Heating and ventilating system and rear-corner windows with de luxe equipment optional at extra cost.

CHOOSE CHEVROLET TRUCKS FOR TRANSPORTATION UNLIMITED!

CLEAN as a whistle that's NYLON BRISTLE

CLEAN EASIER: Paint brushes, bristled with nylon, clean easier and dry out faster than brushes with ordinary bristles. They're more economical, because tough nylon bristle lasts at least 3 to 5 times longer—cuts replacement costs way down. They pick up and deliver more paint too, and brush it out to the smoothest obtainable surface.

It will pay you to buy nylon bristled paint brushes for your next painting job. Write us for a list of manufacturers.



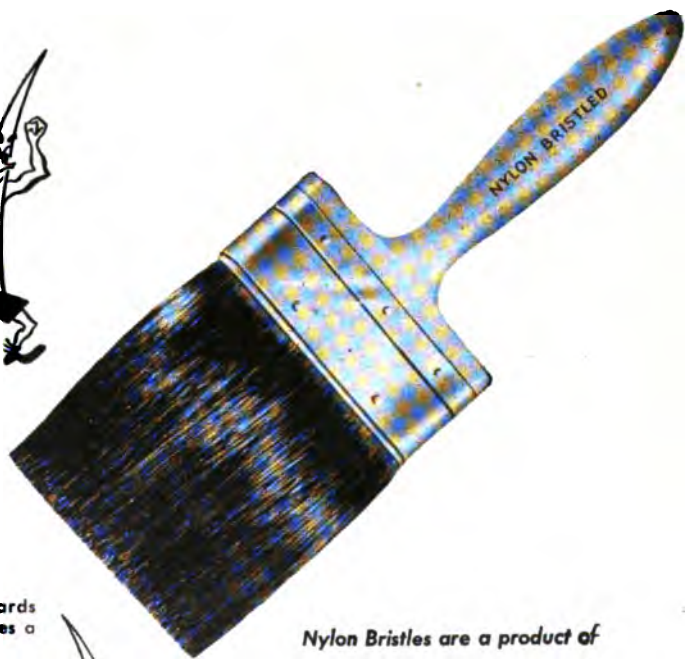


Nylon bristle is tough —outwears other bristle 5 to 1.

By any standards nylon bristle does a perfect job.



Nylon bristle is economical—stretches your dollar by cutting replacement costs.



PL-49-17

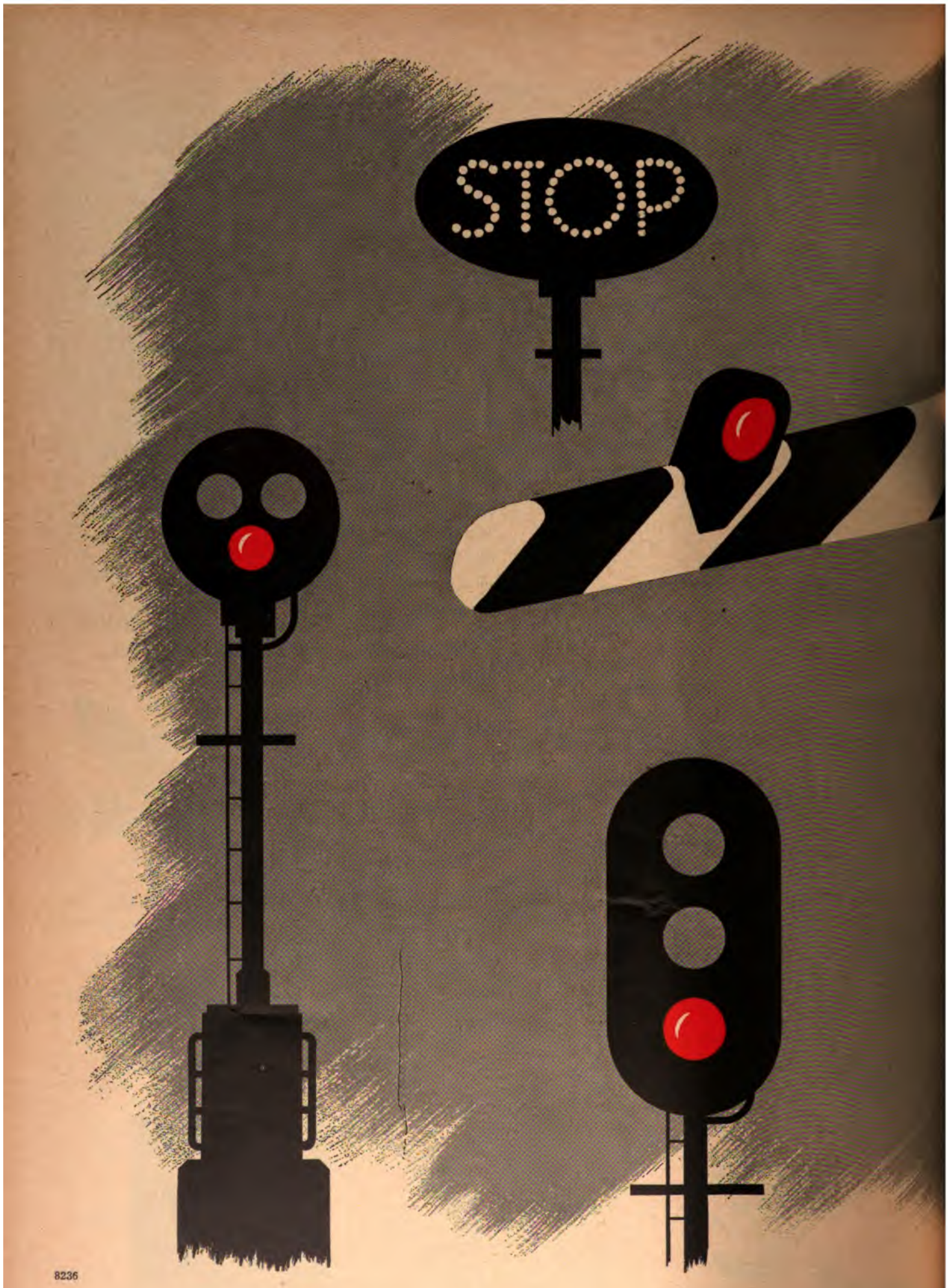
Nylon Bristles are a product of

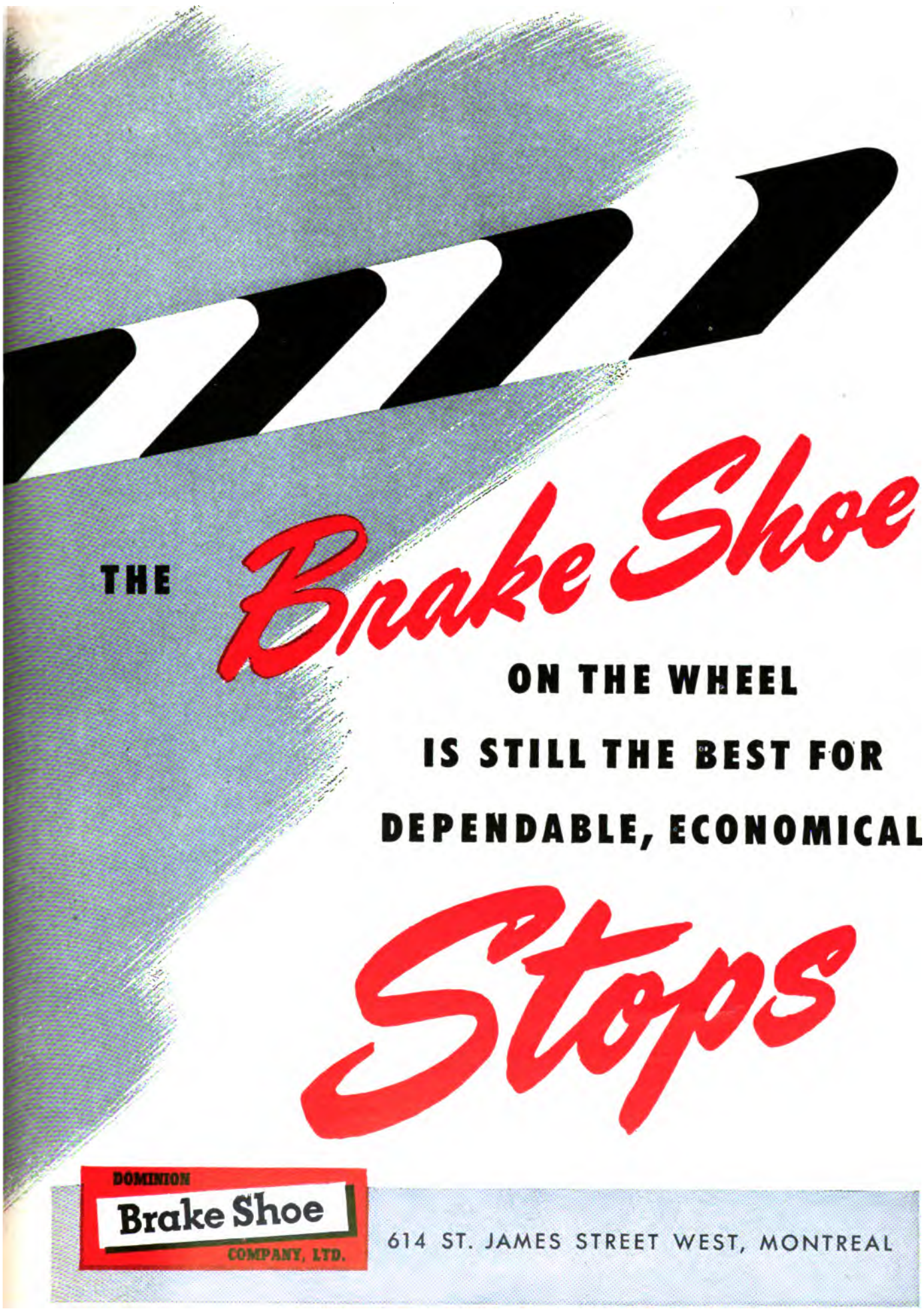
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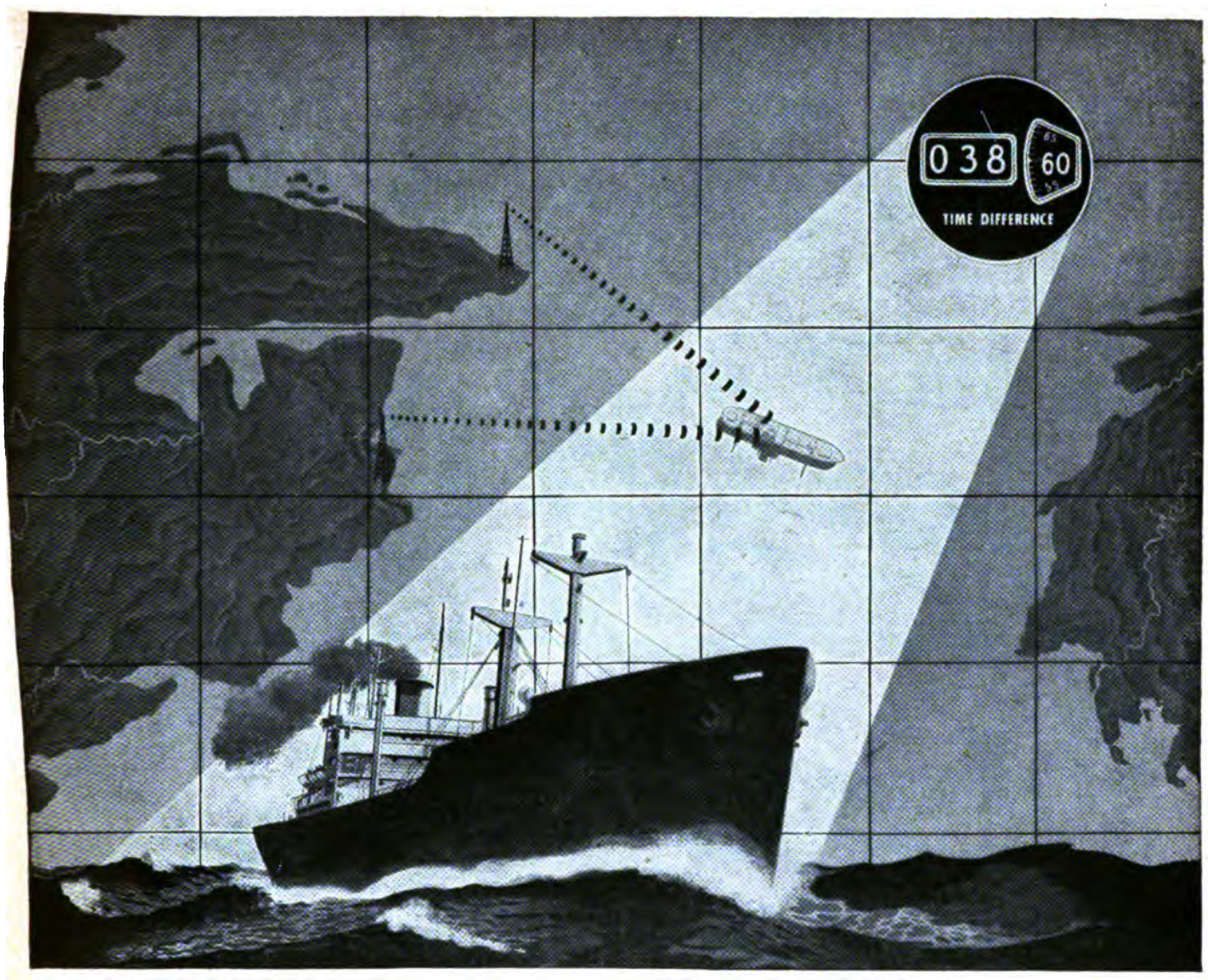
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A Rogers Majestic Railroad Communications System may be able to save money and improve service for you. Our representatives will be pleased to talk over a suitable set-up with you *at no obligation of course*. Simply contact our nearest Regional Sales Office.

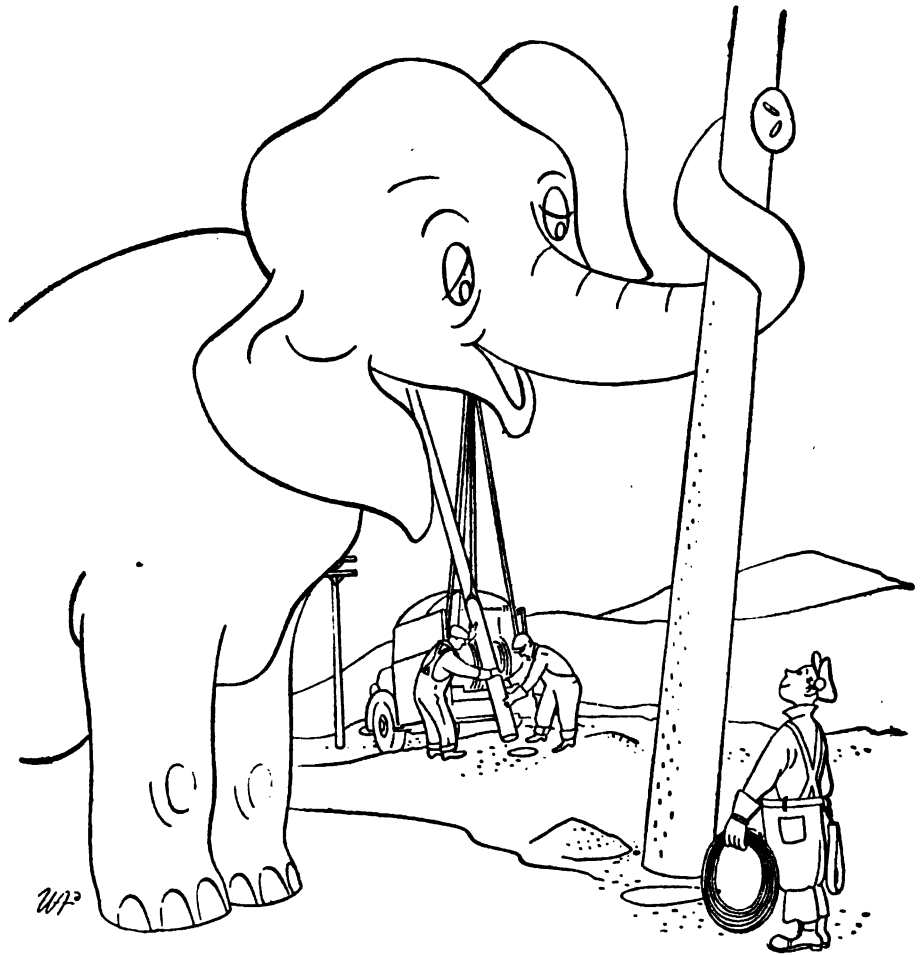
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1056 SUN LIFE BUILDING MONTREAL

Airfoam

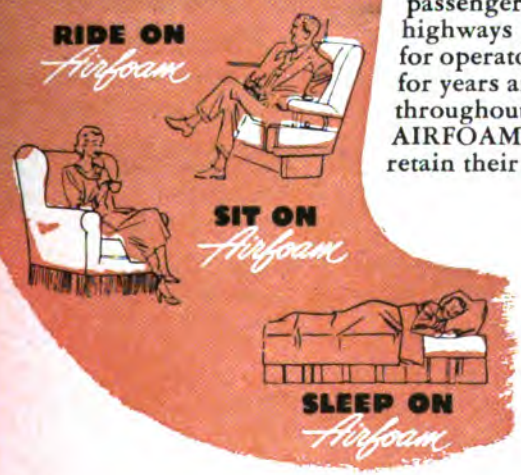
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From the beginning of history, the network of a nation's highways has formed one of the basic patterns of a nation's progress—and today's highways are making a greater contribution than ever to continued progress because of the development of the modern motor coach.

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In the provinces of Quebec and Ontario, the 543 modern motor coaches of the Provincial Transport Company and Colonial Coach Lines are serving routes which total over 3,789 miles over which travelled 19,429,015 passengers in addition to urban transportation services which carried 11,783,516 passengers during 1949 in Kingston, Ont. and Sherbrooke, Que. With skilled drivers, regular schedules, frequent daily trips, they are continually carrying thousands of passengers to work, to school or to play. They are proving, too, an important factor in the development of Canada's vital tourist industry.

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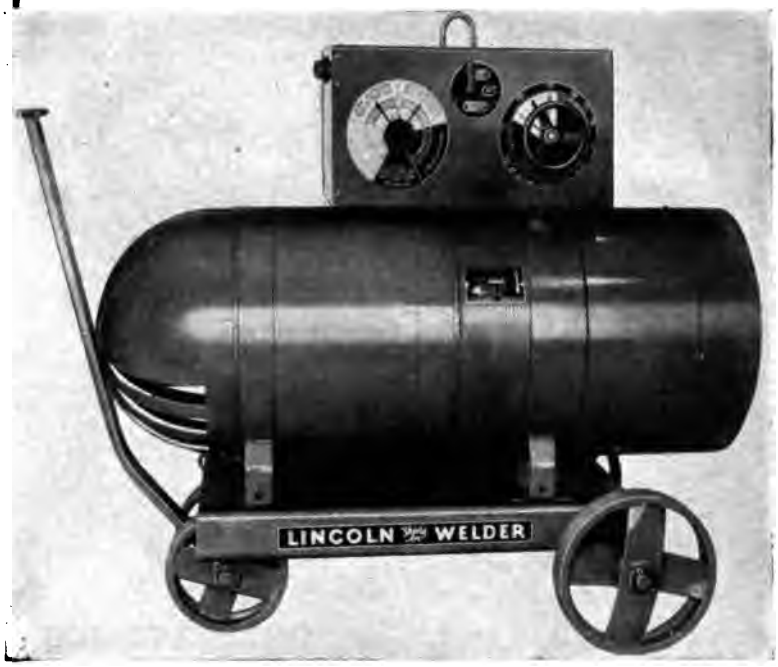
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DUAL
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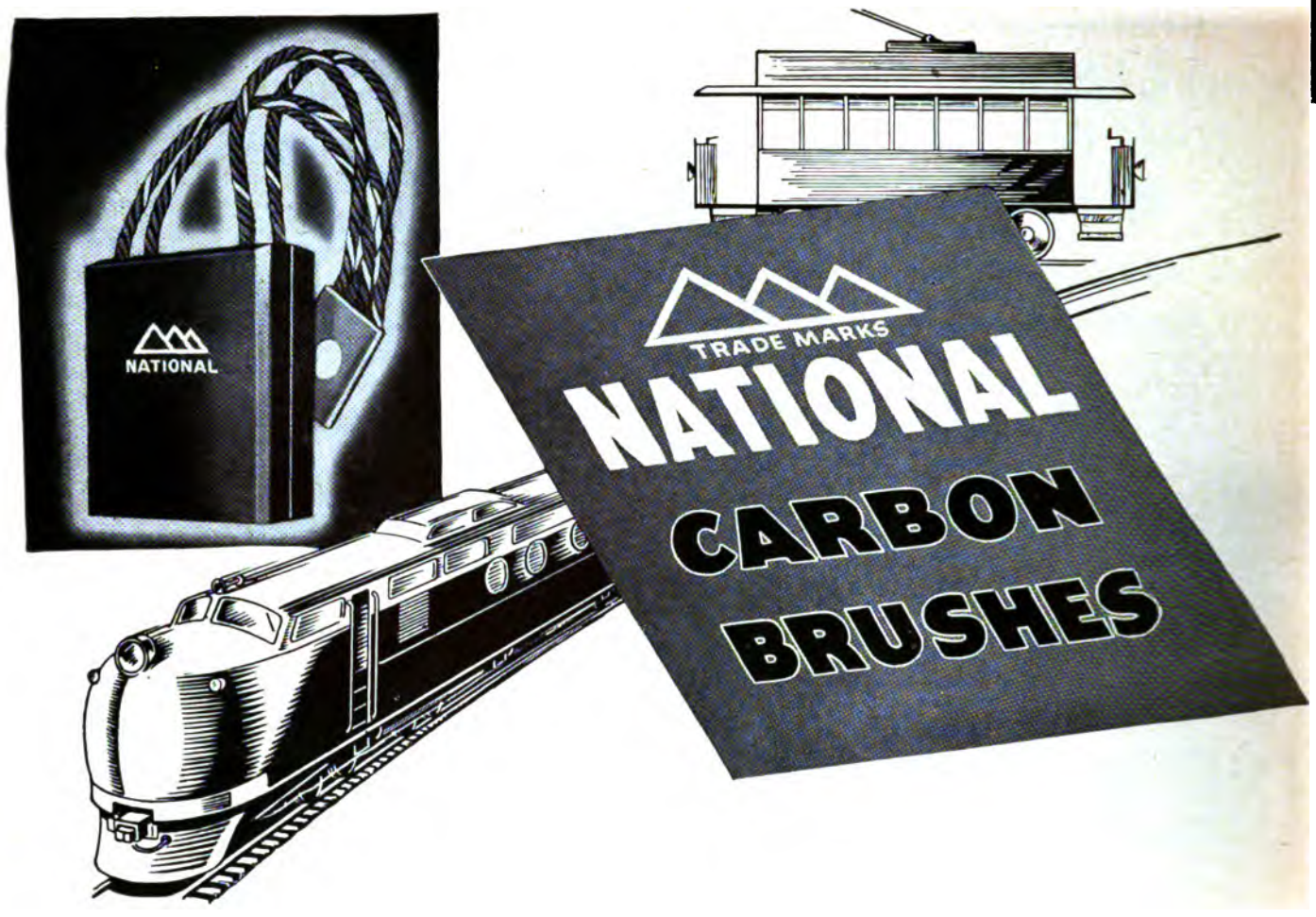
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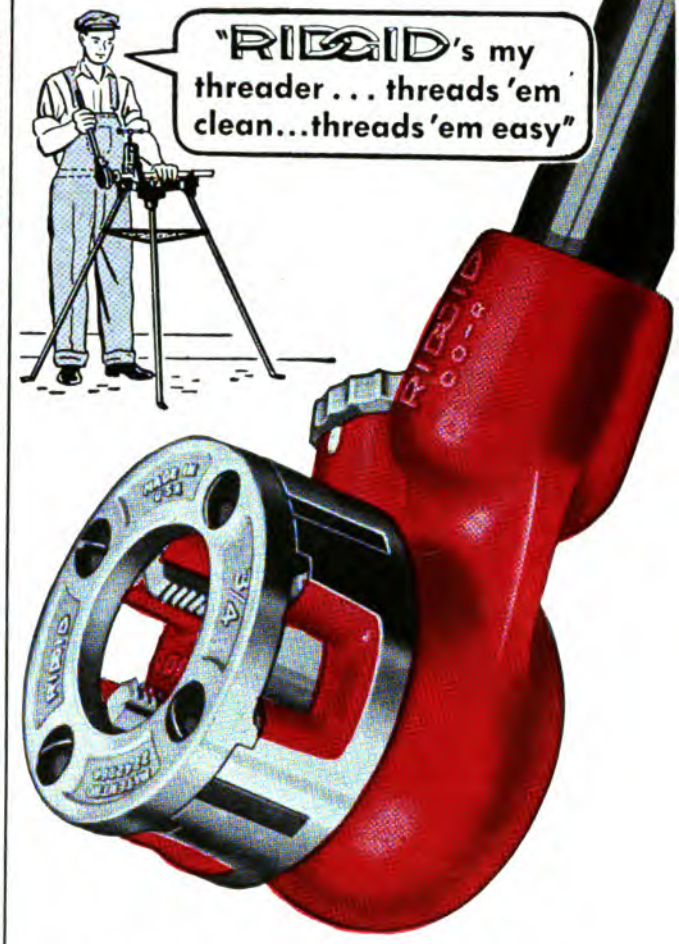
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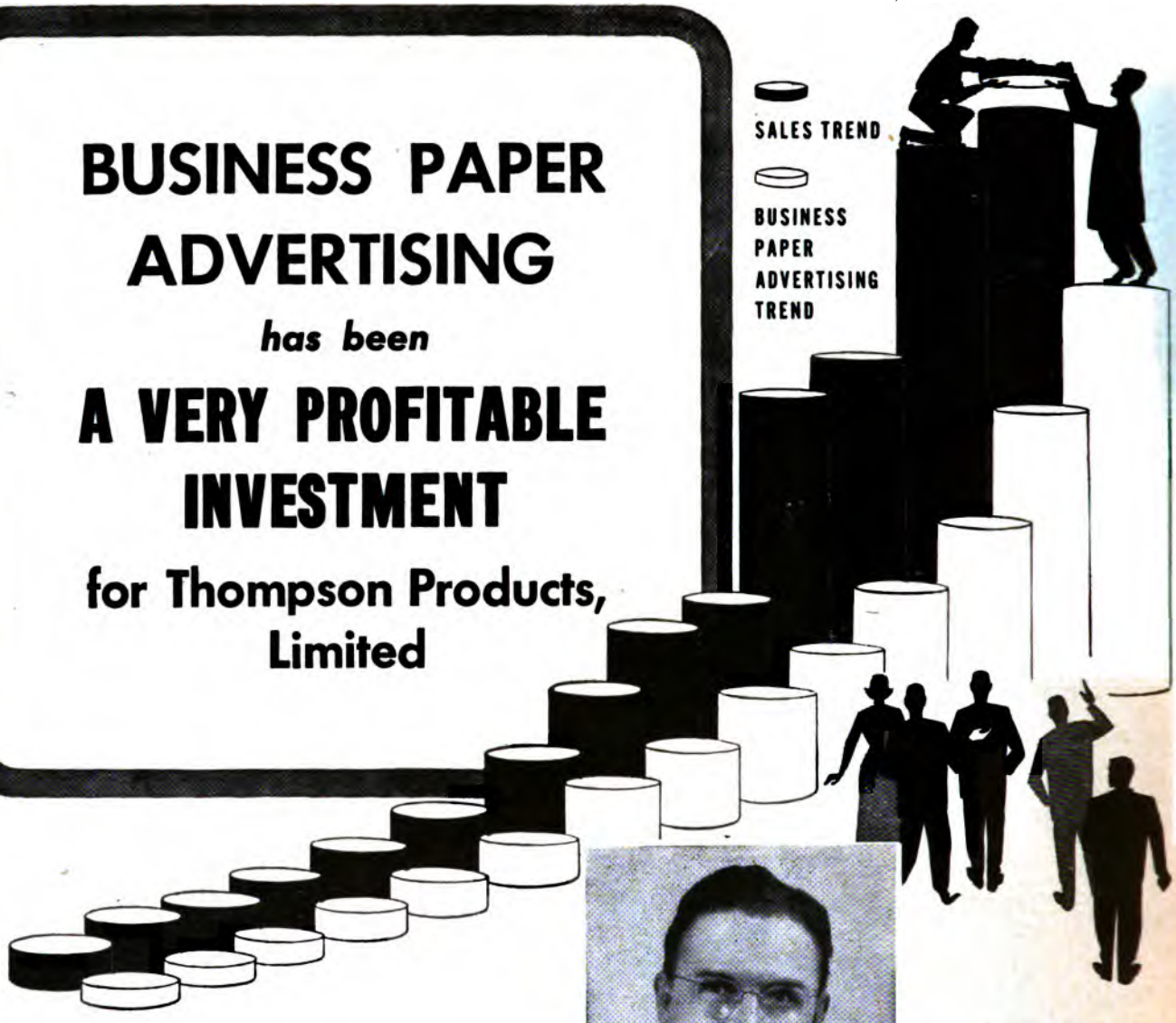
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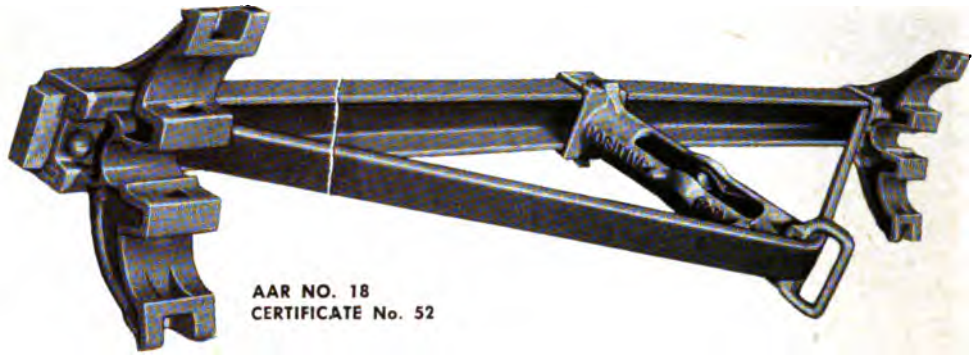
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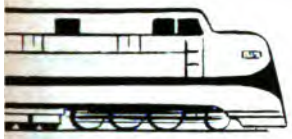
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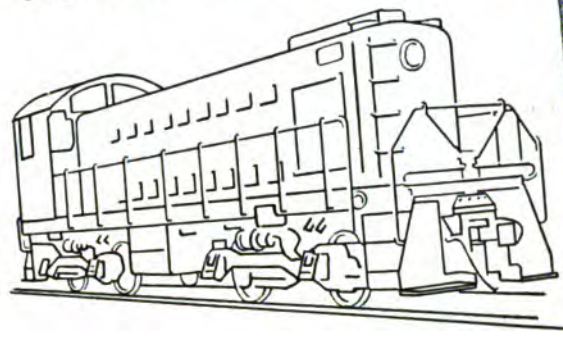
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COMPANY Limited
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Control Gate



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for exit doors of buses and transit vehicles. Saves its cost quickly by practically eliminating

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Naval Architects & Marine Surveyors
Specialists in all types of
Floating Equipment
401, Dominion Square Bldg.
MONTREAL, P.Q.

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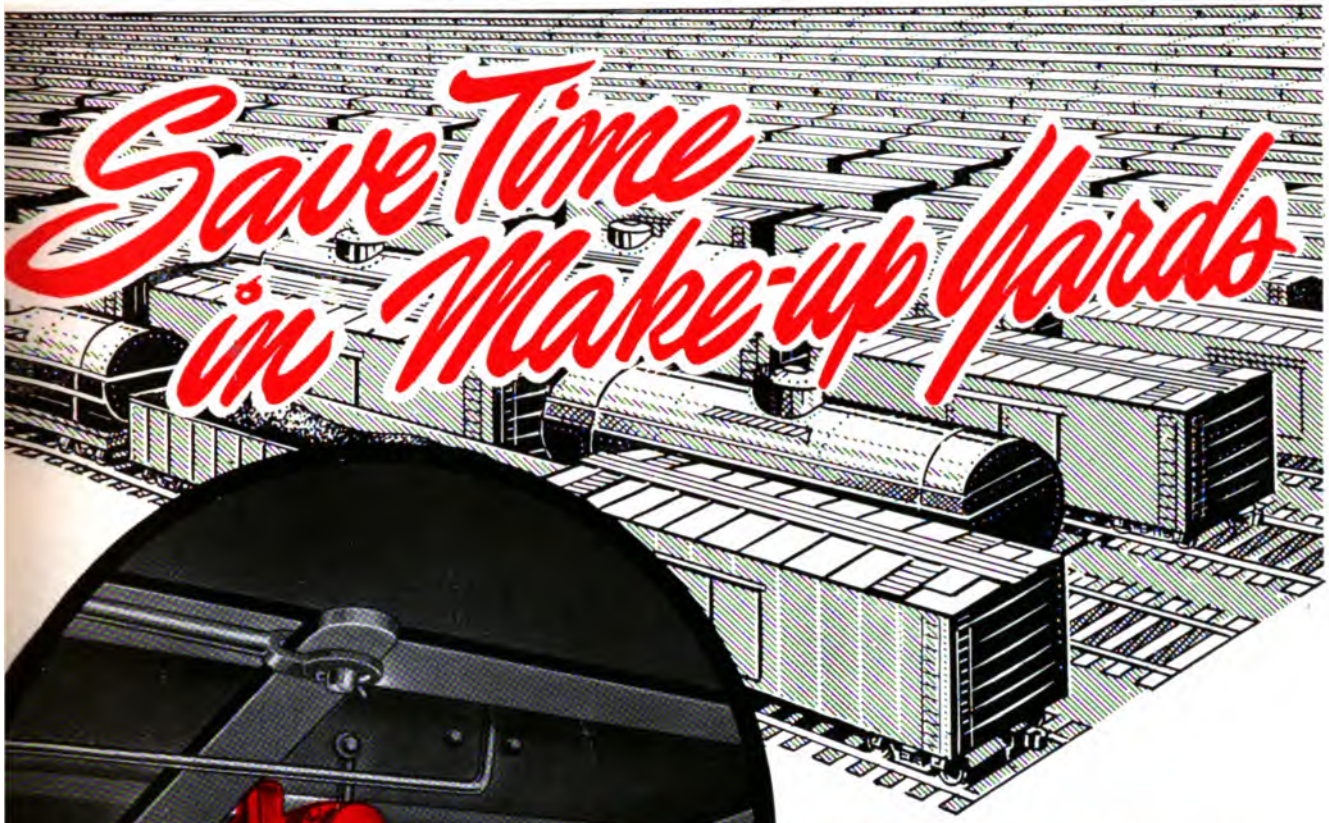
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FOR FREIGHT CARS

Westinghouse Pneumatic AUTOMATIC SLACK ADJUSTER

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Shock resisting materials used throughout. Built for the life of the car.

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No manual adjustment required for the life of the brake shoes.

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Only simple manual adjustment required when brake shoes are replaced.

Streamline your yard operations by eliminating the manual adjustment of rigging on freight cars!

This new Westinghouse Automatic Slack Adjuster is basically the same as used so successfully for many years on passenger cars.

You can apply it to existing freight car equipment with only very minor changes in the brake cylinder lever system.

Ask about it or write for Descriptive Leaflet 2468.

971 T 900

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For your entertainment John Fisher and Don Wright Chorus, Sunday evenings, C.B.C.



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are one of the many types of rolling stock which Canadian Car & Foundry Company supplies to Canada's great railway systems.

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As springs play an important part in all mechanical equipment, their quality should be the first consideration. Our long experience in designing and manufacturing combined with careful testing and rigid inspection guarantees an accurate, efficient and dependable product.

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We also specialize in the manufacture of Railway Track Tools. All our tools have the quality, design and finish required by the exacting specifications of Canadian Railways.

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Established 1869

Ys pg. 587 Electric Railways & Trolley Coaches, pg. 612 Air Transportation, pg. 611 Automotive Transport, pg. 625 Marine, pg. 634

Type MBJ MECO Curve Rail Lubricator



YOU get the greatest combination of advantages possible, when you install the improved Type MBJ Meco Curve Rail Lubricator:

Capacity of the Grease Tank is quadrupled.

Actuating Mechanism is improved in all details.

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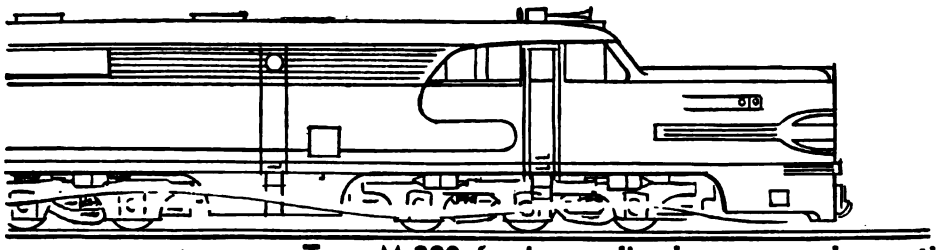
1881-1891 — During these years the railroads bought 193,168 carsets of the **WESTINGHOUSE AUTOMATIC BRAKE** — thus beginning the era of high-speed, heavy-duty transportation.

1940-1950 — During these years the railroads bought 195,643* carsets of **UNIT TRUCKS** — the first basic improvement in freight car brake rigging since Westinghouse.

This is no mere coincidence! More than half a century apart, the remarkable similarity of Westinghouse and the Unit Truck sales during the first decade of their existence demonstrates the railroads' continuing recognition of sound fundamental improvements . . . their ability to assess the difference between a gadget and a significant mechanical improvement.

Not including the final quarter of 1950

UNIT TRUCK CORPORATION • NEW YORK





Type M-380 for heavy diesel passenger locomotives and diesel and electric freight locomotives.

NATIONAL RUBBER-CUSHIONED DRAFT GEARS

cushion the ride behind 9 out of 10 heavy diesels

Produced in Canada for Canadian Railroads

The National Rubber-Cushioned Type M-380 Draft Gear shown here cushions the ride behind 9 out of 10 heavy diesel and electric freight and passenger locomotives. Here are some of its basic advantages:

DOES NOT CREEP—Under sustained loads, gear will not creep.

RESERVE DYNAMIC CAPACITY—To provide the best combination of soft riding action and high shock absorption, dynamic capacity of a gear must be greater than its static capacity. The National Type M-380 Gear has dynamic capacity that actually increases with severity of the shock.

DURABILITY—National Rubber-Cushioned Draft Gears give outstanding service for years. Rugged construction and simple design assure a gear with longer life, greater efficiency.

Represented in Canada by

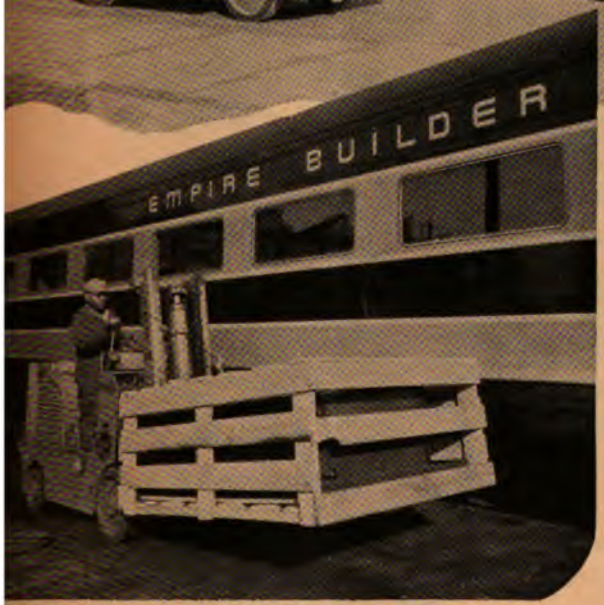
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20 BAKER TRUCKS *mean 80% savings in handling costs at* PULLMAN-STANDARD



Typical yard scene showing 3 Baker Platform Trucks hauling miscellaneous materials to cars. Truck at right doubles as tractor hauling trailer load of car partitions.



Baker Fork Truck carrying crated air conditioning unit, passing in front of nearly completed car for Great Northern's famous "Empire Builder" train.

Proper handling is extremely important at the Pullman-Standard Car Manufacturing Co.'s Chicago Plant. The various buildings are scattered over a wide area. A great variety of materials and fabricated parts are received on flat cars, in box cars or highway trucks. These must be unloaded, stored, and moved from storage to fabricating plants or to cars in the process of building. Where possible, materials are handled on skids or pallets, and transported by fork or lift trucks. Miscellaneous items are handled on platform trucks.

20 Baker Trucks, comprising fork trucks, low- and Hy-Lift trucks, platform trucks and crane trucks, form the basis for their modern, mechanized material handling system. Trucks are subjected to strenuous, continuous service indoors and out. According to the superintendent, they are giving highly satisfactory service—effecting an estimated saving of 80% in handling costs.

ALL TRUCKS ARE INSPECTED REGULARLY BY A BAKER RAULANG SERVICE MAN

Space in warehouse is conserved by tiering. Baker Fork Truck uses detachable fork extensions for handling crates 80" long.

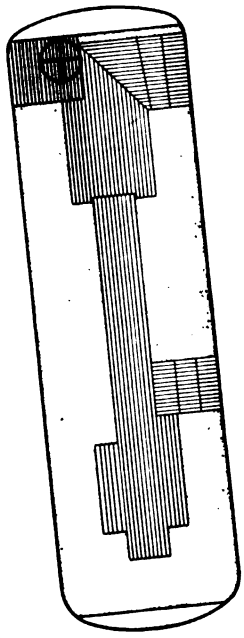


Baker Trucks are sold and serviced in Canada by

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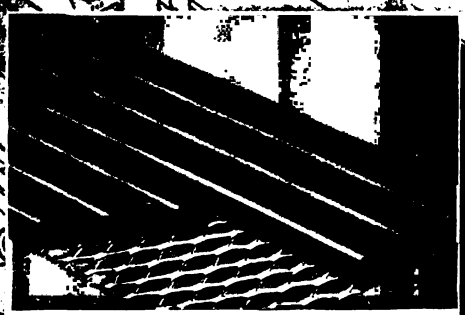
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Rub-Bub safety flooring specified throughou

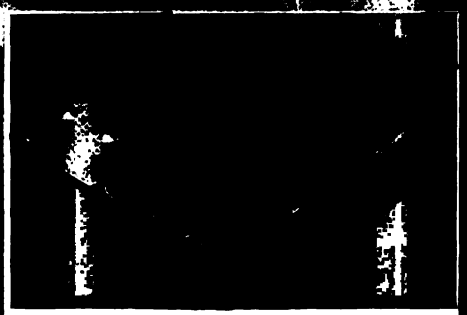


RUB-BUB safety flooring specified for 500 Chicago buses

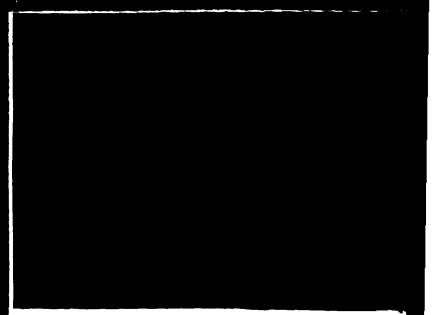
On the new Chicago fleet, Rub-Bub safety flooring will give passengers sure footing at every step. Platforms will carry heavy-duty platform plate; aisle tread will be used down the aisle and in standee areas. And all buses are to have Rub-Bub under-seat flooring, step plate with white safety step edge at front and rear steps, and all-black step plate on the treadles.



RUB-BUB HEAVY-DUTY SAFETY PLATFORM PLATE has a full 5/16 inch thickness of synthetic rubber bonded to expanded-metal backing. Exclusive Dri-Foot rib design and "toothy" texture of Rub-Bub compound prevent slips and falls.



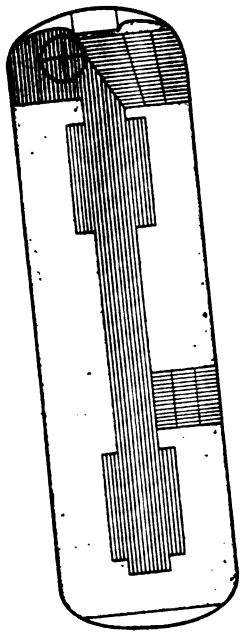
RUB-BUB HEAVY-DUTY SAFETY STEP PLATE has unique "two-zone" construction of natural and synthetic rubber bonded to Perma-Lok metal backing. Adds to flooring life and safety. Available also with detachable white safety step edge.



RUB-BUB SAFETY SMOOTH UN SEAT FLOORING is made from to Rub-Bub synthetic compound w integral fabric backing. Becaus toothy texture of Rub-Bub co pound, this long-lasting floorin never slippery *wet or dry*.

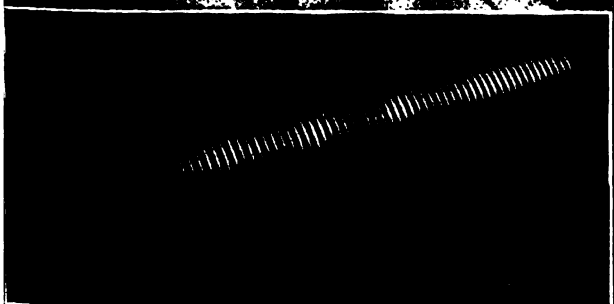
00 new Cbicago and New York buses





New York orders RUB-BUB safety flooring in 400 new buses

Rub-Bub safety flooring assures passenger safety on all of New York City's new buses. Rub-Bub heavy-duty platform plate covers aisles and standee areas; Rub-Bub step plate with white safety step edge is on front and rear steps and on treadles. And under the seats is Rub-Bub smooth underseat flooring.



RUB-BUB HEAVY-DUTY SAFETY AISLE TREAD retains its "as installed" condition longer. Abrasive dirt collects in deep grooves below contact surfaces, minimizes wear. To get added life and extra safety from your vehicle flooring, *always specify Rub-Bub safety flooring throughout on all your new or reconditioned buses.* A-3483

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Transportation Products

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RUB-BUB—T. M. REG. U. S. PAT. OFF.



CPR to speed its newest trains on TIMKEN® bearings...MADE IN CANADA!

SLEEK, new diesel locomotives, now being built for the Canadian Pacific Railroad, will roll on Timken® bearings *made in Canada.* These Timken bearings are being made now at the St. Thomas plant of The Timken Roller Bearing Company.

Canadian railroads have been using imported Timken tapered roller bearings for the past 20 years. But now they can insure the same high speeds, trouble-free performance and passenger comfort with Canadian-made Timken bearings.

Timken bearings eliminate all speed restrictions due to bearings. Starting resistance is reduced 88%. Stops and starts are smoother. "Hot box" delays are practically eliminated and 90% fewer man-hours are required for terminal inspection of journals. *There's no other bearing with so much to offer—no other bearing so fully proved—no other railroad roller bearing made in Canada!*

The Timken Roller Bearing Company, St. Thomas, Ontario. Cable address: "TIMROSCO". Canadian Representatives for Timken Bearings for Railroads: Railway and Power Engineering Corp., Ltd., New Glasgow, Montreal, Noranda, North Bay, Toronto, Hamilton, Windsor, Winnipeg, Edmonton, Vancouver.



Diesel locomotive application



Passenger car application

TIMKEN TAPERED ROLLER BEARINGS

TRADE-MARK REG. U. S. PAT. OFF. AND IN CANADA

NOT JUST A BALL NOT JUST A ROLLER THE TIMKEN TAPERED ROLLER BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION

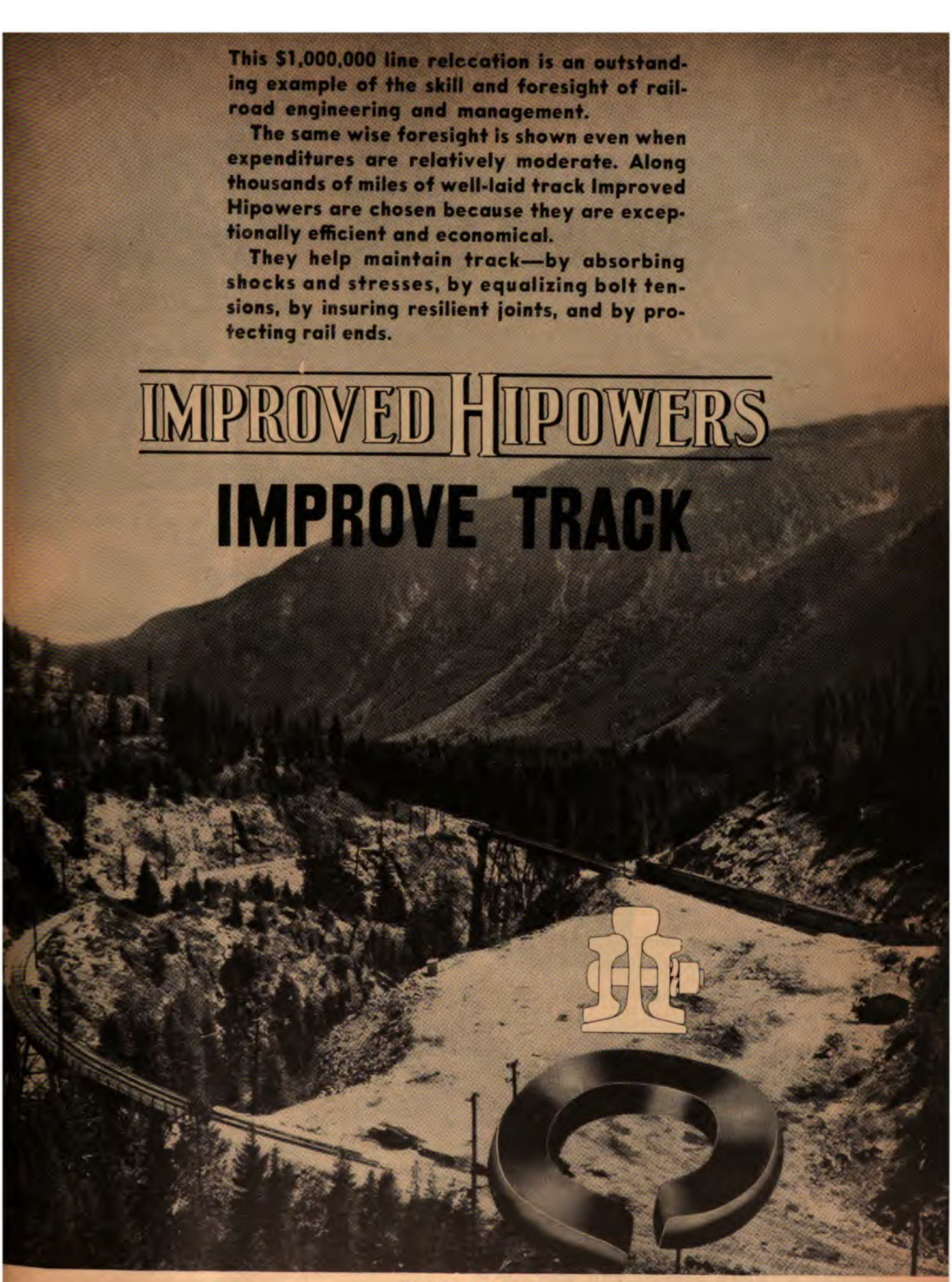
This $1,000,000 line relocation is an outstanding example of the skill and foresight of railroad engineering and management.

The same wise foresight is shown even when expenditures are relatively moderate. Along thousands of miles of well-laid track Improved Hipowers are chosen because they are exceptionally efficient and economical.

They help maintain track—by absorbing shocks and stresses, by equalizing bolt tensions, by insuring resilient joints, and by protecting rail ends.

IMPROVED HIPOWERS

IMPROVE TRACK

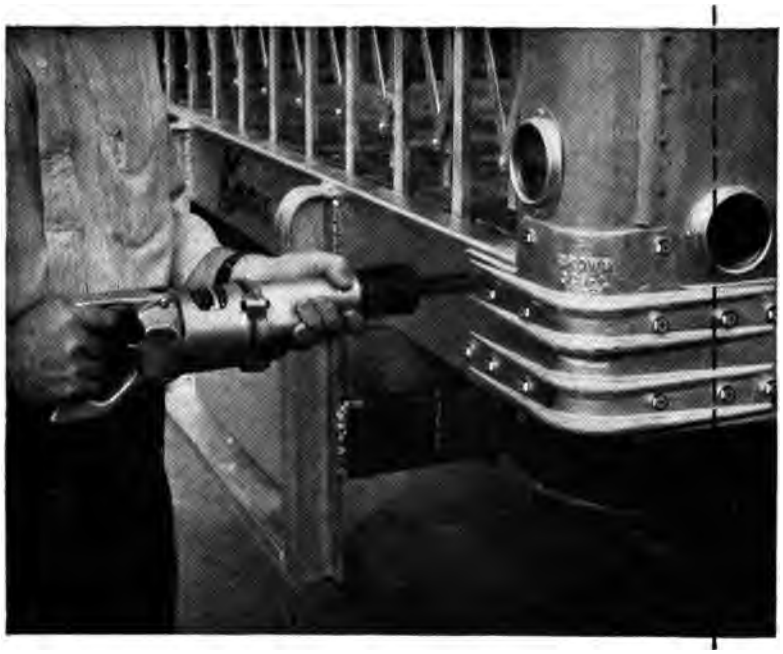


eat Northern Railway Photo

HE NATIONAL LOCK WASHER CO.
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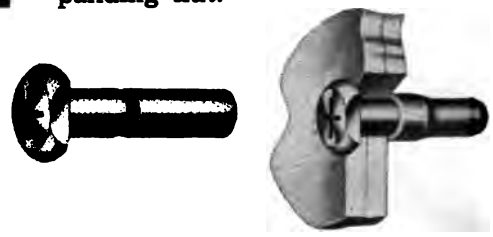
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now

you can speed heavy sheet metal assembly

Basically a blind mechanical rivet, the Blind Bolt saves you time and expense in production or maintenance. A three-piece assembly, the Blind Bolt consists of a hollow rivet, an inner screw and the expanding nut.



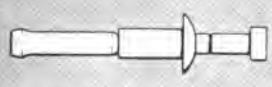
To install the Blind Bolt an inexpensive Cherry adapter tip is engaged to an automatic screw driver. This adapter tip fits the recess in the screw head of each Blind Bolt. Operation of the tool rotates the screw. The expanding nut is drawn over the rivet shank until it butts against the blind side of the job. When the sheets are drawn tightly together, the screw driver releases automatically at the pre-set torque, leaving the Blind Bolt securely installed.

install blind bolts and save time

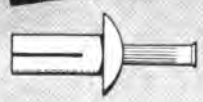
You can save time with Blind Bolts because they're installed from one side of the job... that makes it easier to handle heavy sheet metal assemblies. Blind Bolts have the shear and tensile strength you need and install fast. After two or three Blind Bolts align the job, it's only a matter of seconds to finish up. Write for complete literature today.

FIRST... look to Cherry Rivet Company's complete line of blind rivets and high strength structural bolts.

FIT YOUR FASTENING JOB EXACTLY



CHERRY RIVETS, the standard of industry, are available in more rivet types and a greater range of diameters—grip lengths—and material thickness tolerances than any other blind rivet manufactured and many other fasteners.



DRIVE PIN RIVETS. Ideal for fastening light sheet to heavier sheeting or to framework where rigidity is great enough to withstand hammering. As simple as hammering nails, you can save valuable time on sheet metal jobs with Drive Pin Rivets.



LOCK BOLT. A high-strength, structural, non-blind bolt to be used where shear and tension loads are high. Will not loosen in service. Ease of installation saves time. You save considerable weight over nuts and bolts.



UTILITY RIVET. A low-cost, straight stem, mechanical blind rivet offering many advantages of the Cherry Rivet but manufactured to more liberal standards. They are installed with Cherry Tools equipped with adapters.

WRITE FOR DETAILS TODAY!

CHERRY RIVET COMPANY

Canadian Distributor

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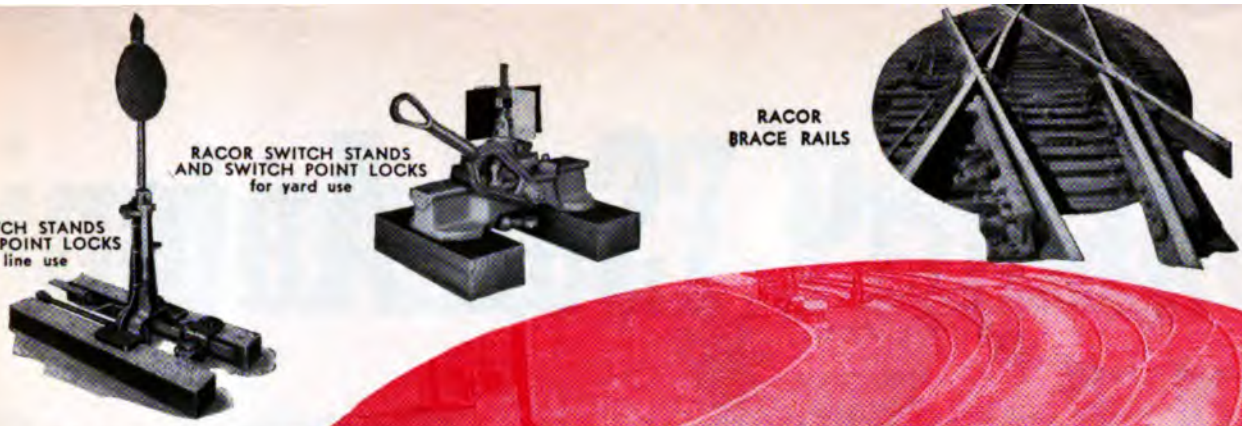
- ☐ DRIVE-PIN RIVETS
- ☐ CHERRY BLIND RIVETS
- ☐ LOCK BOLTS
- ☐ CHERRY TOOLS
- ☐ BLIND BOLTS
- ☐ UTILITY RIVETS

Please send me detailed information on Cherry Rivet Company products as checked here:

Name_____ Firm_____

Address_____

City_____ Province_____



ACOR SWITCH STANDS
D SWITCH POINT LOCKS
for main line use

RACOR SWITCH STANDS
AND SWITCH POINT LOCKS
for yard use

RACOR
BRACE RAILS

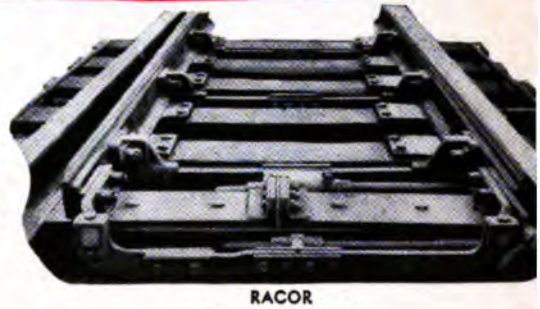
Continuous BRAKE SHOE RESEARCH



RACOR MANGANESE
STEEL CROSSINGS



RACOR RAIL
LUBRICATOR



RACOR
SWITCH RODS

Assures the best in RACOR equipment for Canadian Railways

Out in Mahwah, N. J. Brake Shoe maintains one of the world's most modern and outstanding Research Laboratories. Within its walls are housed the latest of scientific testing equipment to simulate actual field conditions — manned by a personnel of highly trained and experienced metalurgists, physicists and chemists. Year after year, day and night around the clock, a constant vigilance is maintained in the testing of RACOR materials and devices.

Thousands of dollars are spent annually in our fight against the forces of wear, impact and strain to assure longer life to every RACOR product — so as to offer the railroad industry the best product for the job whether it be switch stands or special trackwork.



Brake Shoe

CANADIAN RAMAPO DIVISIO

NIAGARA FALLS ONTARI

San Antonio



San Antonio Transit Co. has just placed its seventh re-order for Twin Coaches—today's revenue and economy leaders.

In addition to the 15 Propane Twins covered by this order, the transit company will convert 62 of its postwar Twins to Propane.



FAGEOL
TWIN COACH
CANADA

TWIN COACH OF CANADA, LTD

200 MADISON AVENUE • TORONTO 5, ONTARIO

to operate 77 Propane Twin Coaches!

San Antonio — and the 20 other transit companies with Propane Twins on order — will benefit by these 6 advantages!

1. Fuel savings up to 2 cents per mile.

2. Reduction of maintenance expense to new minimum.

3. Up to 50% more time between engine overhauls.

4. Elimination of obnoxious exhaust fumes and smoke.

5. ***Constant availability of fuel.*** America has 11-5/8 billion gallons of unused surplus Propane capacity. Propane is not a critical war material. In event of fuel shortages, it seems probable that Propane will remain ration-free.

6. ***Stable fuel prices.*** As cost of gasoline and diesel fuel has gone up, price of Propane has come down (1940-1950). Huge Propane surplus is guarantee that price will remain low.

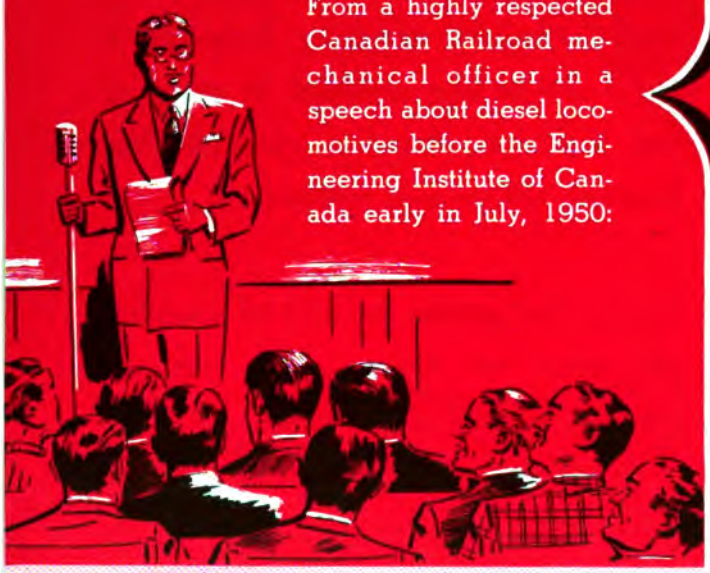
We invite transit properties to find out the facts about Propane's advantages on their own properties. Propane-powered Twins are always available for demonstrations at your convenience.

L J Fageol



L. J. FAGEOL
President
TWIN COACH CO.

VAPOR Steam Generators Heating diesel trains in sub-zero weather!



From a highly respected Canadian Railroad mechanical officer in a speech about diesel locomotives before the Engineering Institute of Canada early in July, 1950:

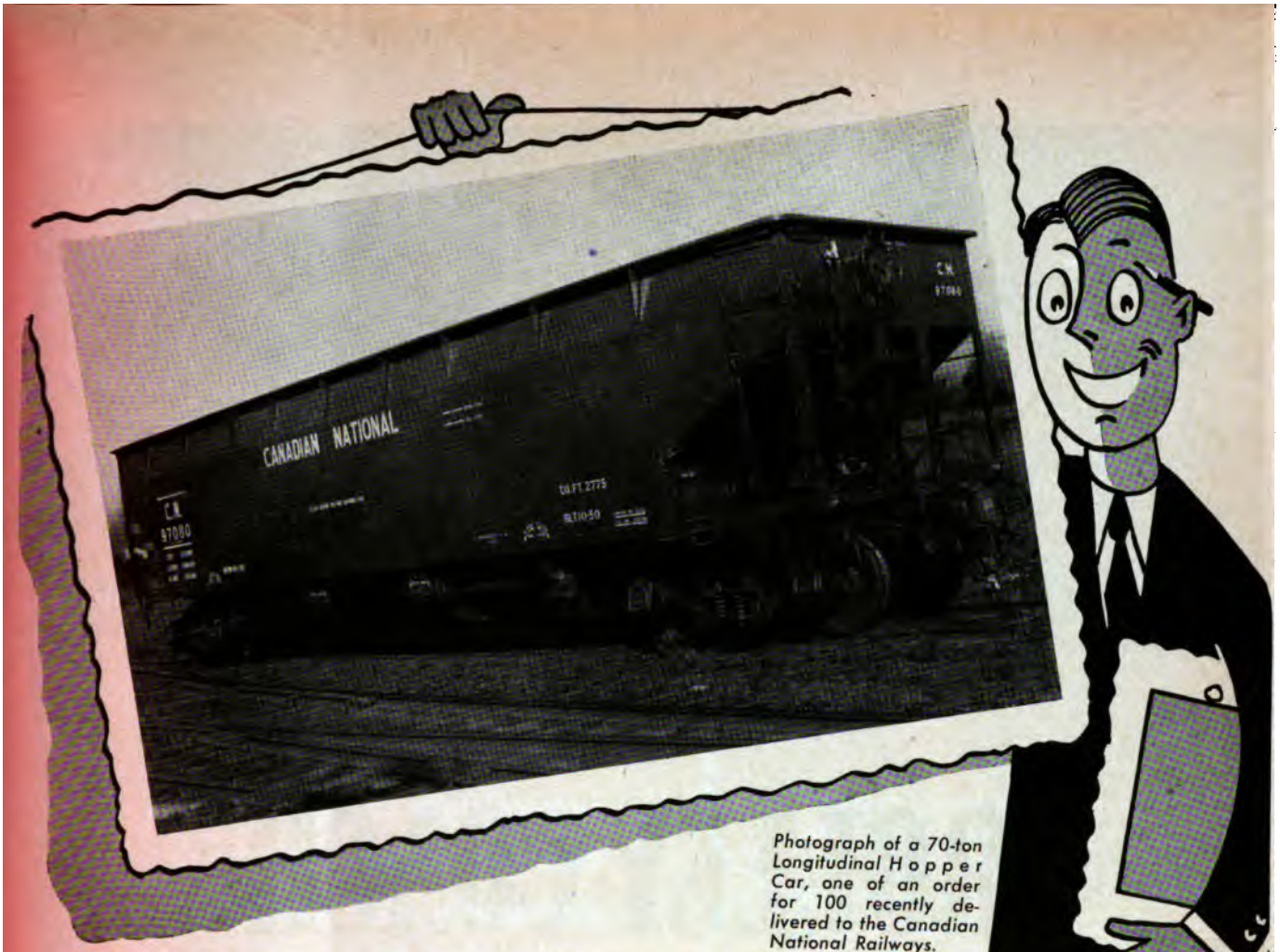
"……and that during the past winter, extensive tests were conducted with diesel electric locomotives on passenger runs between Montreal and Winnipeg in order to investigate the problem of heating these trains in extremely cold weather. These tests show that satisfactory operation could be expected in that part of the system where very severe winter conditions exist."

VAPOR Engineers were permitted to participate in these and similar tests on both major Canadian railroads during the coldest part of the 1949-1950 season. VAPOR'S continuously improved Steam Generator performance is a result of the fine suggestions and cooperation from the mechanical and operating forces of American and Canadian railroads and locomotive builders. This cooperation was never more effectively demonstra than during the tests on Canadian railroads during most severe weather last winter.

The VAPOR Organization sincerely appreciates the suggestions and cooperation from the mechanical and operating departments of the railroads and locomotive builders. This cooperation enables us to assure railroad management that VAPOR Generators will always be the reliable source of steam for diesel locomotives under all climatic condition

VAPOR CAR HEATING CO. OF CANADA LIMITED

65 Dalhousie Street, Montreal, Que.



Photograph of a 70-ton Longitudinal Hopper Car, one of an order for 100 recently delivered to the Canadian National Railways.

still another example

of National Steel Car production

National Steel Car Corporation has been privileged to play a large part in many important developments in the design and construction of railway rolling stock, and now its wide experience. advanced mechanical equipment and plant facilities, engineering and structural skill, its extensive production capacity and skilled workmen — enable it to offer much to the buyer of railway equipment.

The opportunity is always welcomed of placing definite recommendations, estimates and specifications before those interested in modern steel rolling stock and allied products.

NATIONAL STEEL CAR

HEAD OFFICE: HAMILTON, ONTARIO *Corporation Limited* SALES OFFICE: MONTREAL, QUEBEC

BUILDERS OF TRANSPORT FOR CANADA



TROLLEY COACH

Proves "Provident" Choice for

PROVIDENCE

● According to our dictionary, "provident" means "making provision for the future," or "prudent, saving."

It sounds like just the right word to describe the choice of the trolley coach for Providence and for the 600,000 people of the Greater Providence area. For 19 years United Electric Railways Company has been one of the country's model trolley coach properties. Today its trim gray and yellow fleet includes 300 trolley coaches. They operate on 21 main routes that cover a total of 160 round trip miles.

In 1949 trolley coaches carried 62 per cent of the revenue passengers while covering 49 per cent of the revenue miles.

Everywhere around the UER system there's strong evidence that the trolley coach is doing a good job . . . helped by a management that knows how to make best use of this modern electric vehicle . . . supported enthusiastically by a public that appreciates de luxe transportation.

Experience has definitely proved that the trolley coach was a "provident" choice for Providence.

4010-T



Canadian Ohio Brass

TROLLEY COACH AND STREETCAR LINE MATERIAL AND CAR EQUIPMENT

NO JOB IS TOO BIG - OR TOO SMALL

for



The shipyard at Collingwood where the "HOCHELAGA" was built and launched on her maiden voyage last fall.



The "HOCHELAGA", against the Detroit skyline, on her first cargo-carrying voyage.

A small local fishing smack needing repair—a handsome contract from a land across the sea for the construction of a multi-ton cargo vessel . . . both get skilled attention at any of Canadian Shipbuilding and Engineering's four Ontario shipyards. Over a hundred years' experience goes into every refitting, conversion, overhauling or replacement job.

The two largest ships ever built in the Dominion —"HOCHELAGA" and "COVERDALE"—were launched from the yards at Collingwood and Midland, respectively. Early next year, Port Arthur and Collingwood will each complete an oil tanker with a cubic capacity unsurpassed by any other Canadian oil carrier.

The Company represents four of the five Canadian shipbuilding and repair centres controlled by Canada Steamship Lines. Their record, for the past year alone, of vessels designed and built, along with the total tonnage of ships drydocked and repaired, make an impressive total.



All enquiries promptly acknowledged and information supplied on request.



DULUX cuts the cost per mile

For most of the 700 million gallons of gasoline which Canada consumes yearly, fleet-owners and private motorists rely upon the big tank trucks which keep even remote communities constantly supplied.

In no industry is competition keener or public good-will more vital. Always clean, colourful and well-painted, each truck is a travelling advertisement which reflects the company's efficiency and the quality of its products.

In the oil industry, paint maintenance is a major expense. Hence, DULUX* has long been the favoured finish for trucks and other equipment. DULUX gives greater paint mileage per gallon . . . cuts the costs of paint maintenance . . . and, because of its quick-drying properties, gets equipment out of the shop faster.

★ ★ ★

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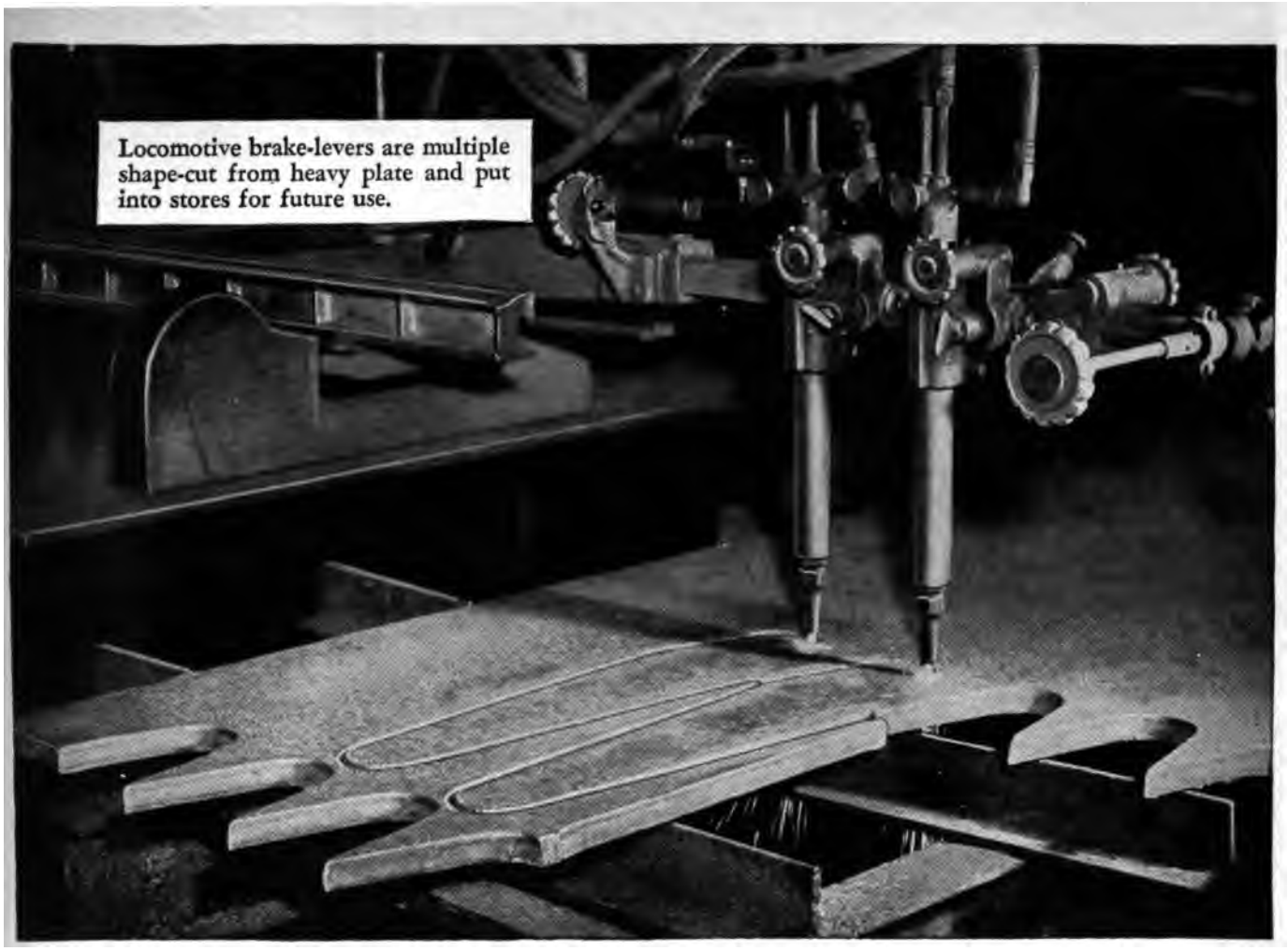
**DULUX and DUCO are registered trade names of Canadian Industries Limited*

CANADIAN INDUSTRIES LIMITED

"Serving Canadians Through Chemistry"

CANADIAN INDUSTRIES C-I-L LIMITED

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BUILD UP YOUR STOCK PILE

With Shape-Cut Parts

● With oxy-acetylene shape-cutting equipment supplied by CANADIAN RAILROAD SERVICE, mechanical departments can produce car and locomotive parts of almost any size and shape in their own shops from stock plate, sheets, billets, and forgings or from metal salvaged in demolition. Thus, adequate replacement inventories can be maintained at all times because parts can be made when they are needed, either singly or in quantities. They can be made quickly, with changeovers from cutting a part of one shape to that of another taking but a few minutes. And they can be made so accurately that in most cases little or no machining is required before use or assembly.

CANADIAN RAILROAD SERVICE representatives are thoroughly experienced in applying oxy-acetylene shape-cutting to railroad needs. They will be glad to help you use this production method in your shop.

CANADIAN RAILROAD SERVICE COMPANY, LIMITED

350 Bay St. **Toronto 1, Ontario**



SINCE 1924 - THE COMPLETE OXY-ACETYLENE SERVICE FOR CANADIAN RAILROADS

"Oxweld" and "CRS" are trade-marks.

COUNT ON THESE.... 8 PLANTS FOR FAST DELIVERIES



No other type of freight wheel offers the service facilities of Chilled Tread Car Wheels. These eight plants strategically situated to serve rail traffic mean immediate delivery thus reducing inventory requirements. This is only one of the advantages of using Chilled Tread Wheels. There are many others —

5 METALLURGICAL POINTS IN FAVOUR OF CHILLED CAR WHEELS

- 1. Rotundity tests to .025 inch. (Standard A.A.R. is .031".)
- 2. Chill test blocks taken regularly during pouring operations.
- 3. Pyrometric check for processing temperatures and chemical analysis for each heat.
- 4. Finished wheel subjected to regular Drop-tests. (A.A.R. specifications.)
- 5. Thermal tests. (A.A.R. specifications.)

All these things add up to greater safety, strength and durability.



Chilled Tread Wheels are Manufactured in Canada by

CANADA IRON FOUNDRIES LIMITED
CANADIAN CAR & FOUNDRY CO. LIMITED
DOMINION WHEEL & FOUNDRIES LIMITED

Canada's Outstanding

PREVOST COACH

CUSTOM BUILT
BY MASTER CRAFTSMEN



INTER-URBAN 41 PASSENGER

PROGRESSIVE IN DESIGN
RELIABLE IN WORKMANSHIP
EFFICIENT IN PERFORMANCE
VIEING IN PRICE, QUALITY AND SERVICE
OUTSTANDING APPEARANCE
STURDILY BUILT, COMFORTABLE TO RIDE
THOROUGH CRAFTSMANSHIP

CANADIAN
OPERATORS
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PREVOST COACH COMPANY

MANUFACTURERS

SAINTE CLAIRE **DORCHESTER COUNTY, QUE.**

Voyageur

intercity coach



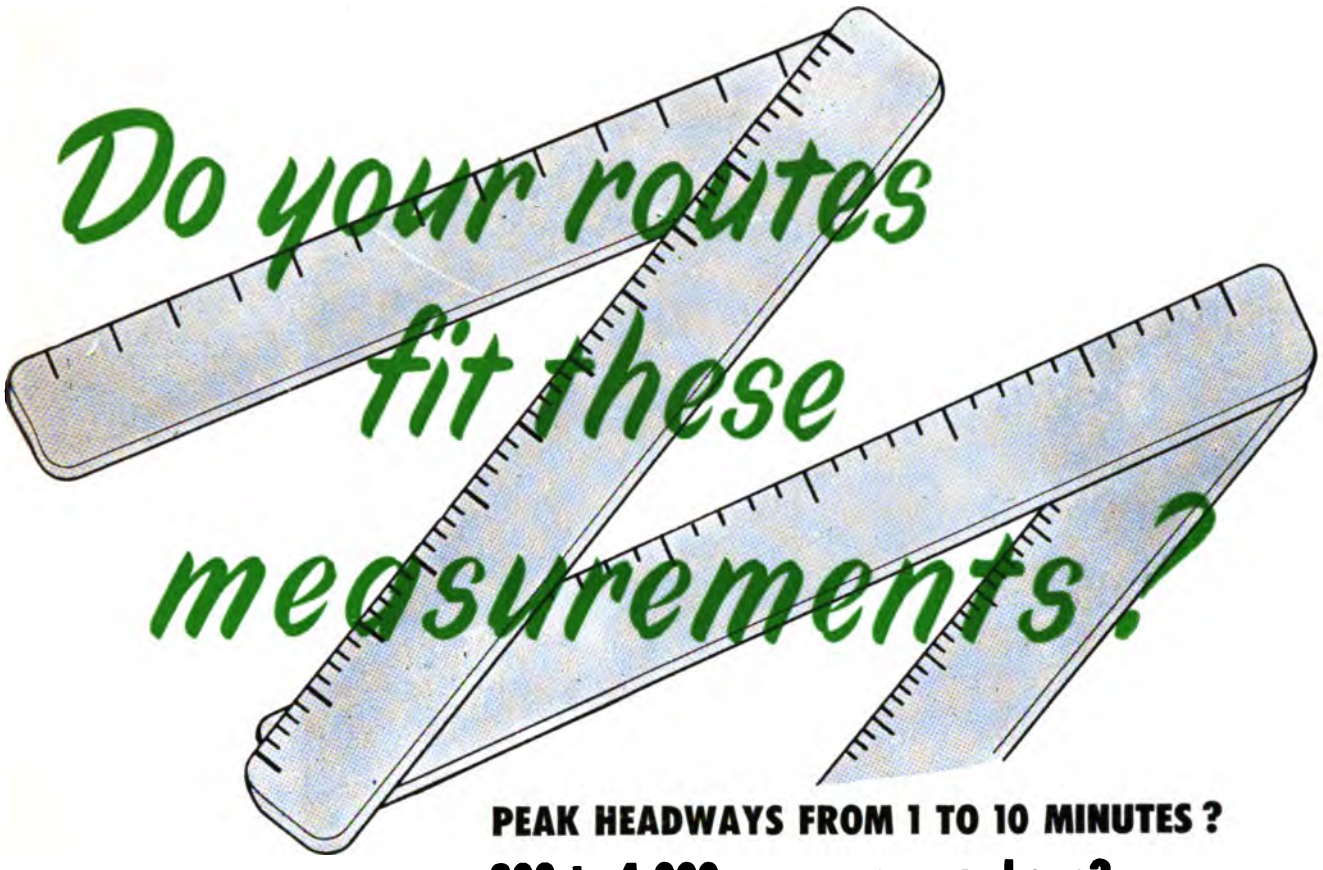
The Voyageur is Canadian Car
Foundry's great new contributio
intercity coach transportation. It
specially designed and built to g
greater passenger comfort, m
profitable operation and easier, s
driving. The Voyageur, though br
new from front to rear bumper, c
tains all the timetested features
the Canadian Car & Foundry l
of superior type coaches, highly
fined and improved to make it
last word for intercity tra
Twenty-nine, thirty-three or thi
seven passenger seating arra
ments can be provided.

FOR FULL DETAILS WRITE TO:

Automotive Division

CANADIAN CAR & FOUNDRY COMPANY LIMIT

Do your routes fit these measurements?



PEAK HEADWAYS FROM 1 TO 10 MINUTES?
300 to 4,000 passengers per hour?
1 TO 20 MILLION ANNUAL SEAT MILES PER ROUTE MILE?

. . . if the answer is "Yes" . . .

You can profit with Trolley Coaches!

GENERAL ELECTRIC
TROLLEY COACH
Propulsion Equipment

Transit authorities in every Canadian city operating trolley coaches are enthusiastic about them. Vancouver, Calgary, Edmonton, Saskatoon, Regina, Winnipeg, Fort William, Port Arthur, Kitchener, Toronto, Cornwall, Montreal and Halifax are all trolley coach boosters. The city of Hamilton will soon have some of these modern vehicles in service. Investigate trolley coaches before you modernize your transit system.

CANADIAN GENERAL ELECTRIC COMPANY
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Head Office: Toronto — Sales Offices from Coast to Coast

50-BC-3

NEW POWER PLANT

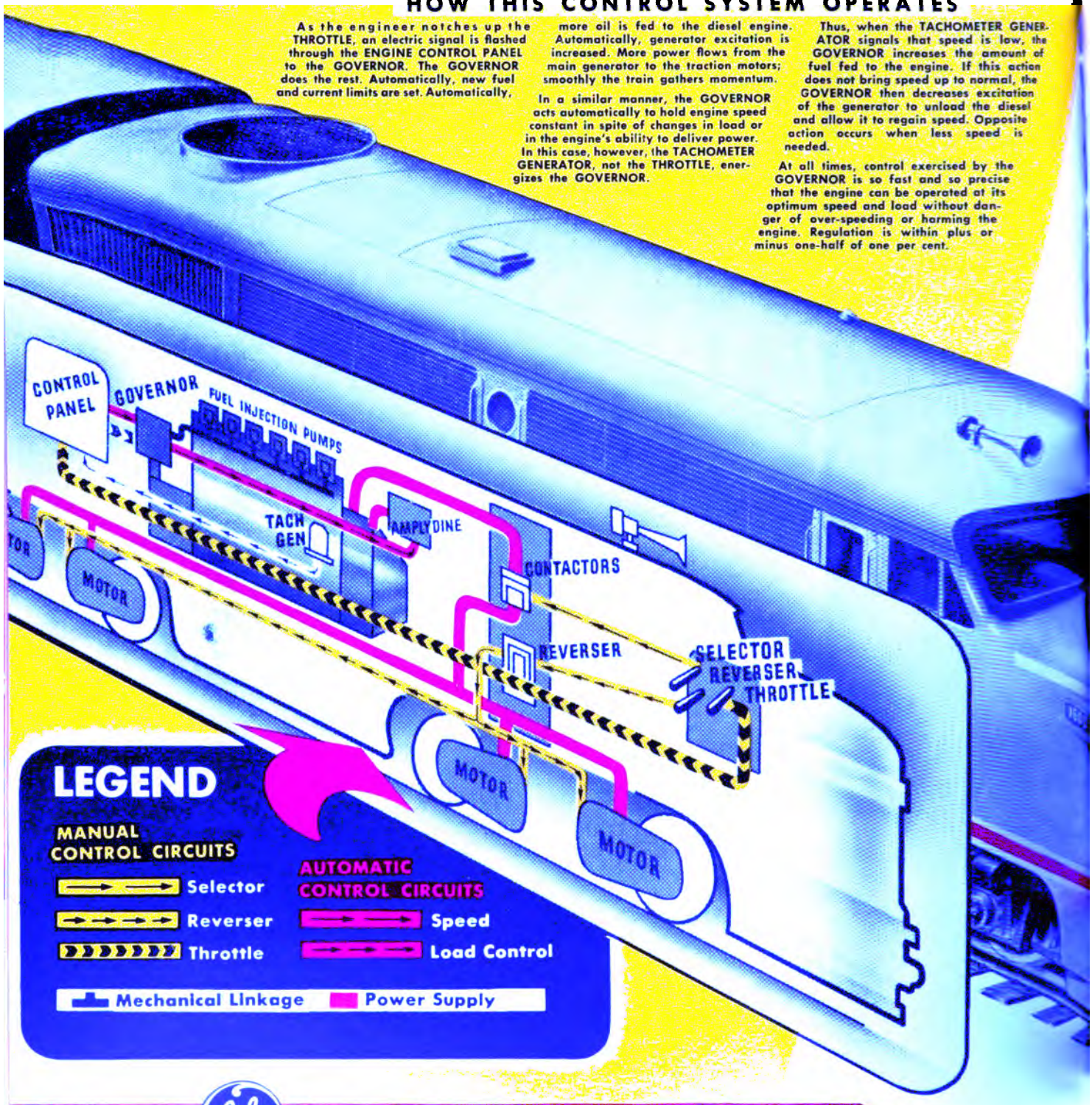
HOW THIS CONTROL SYSTEM OPERATES

As the engineer notches up the THROTTLE, an electric signal is flashed through the ENGINE CONTROL PANEL to the GOVERNOR. The GOVERNOR does the rest. Automatically, new fuel and current limits are set. Automatically, more oil is fed to the diesel engine. Automatically, generator excitation is increased. More power flows from the main generator to the traction motors; smoothly the train gathers momentum.

In a similar manner, the GOVERNOR acts automatically to hold engine speed constant in spite of changes in load or in the engine's ability to deliver power. In this case, however, the TACHOMETER GENERATOR, not the THROTTLE, energizes the GOVERNOR.

Thus, when the TACHOMETER GENERATOR signals that speed is low, the GOVERNOR increases the amount of fuel fed to the engine. If this action does not bring speed up to normal, the GOVERNOR then decreases excitation of the generator to unload the diesel and allow it to regain speed. Opposite action occurs when less speed is needed.

At all times, control exercised by the GOVERNOR is so fast and so precise that the engine can be operated at its optimum speed and load without danger of over-speeding or harming the engine. Regulation is within plus or minus one-half of one per cent.



Electrical Components
Manufactured by
CANADIAN GENERAL ELECTRIC COMPANY LIMITED

ALCO-DIESEL Engines
Manufactured by
DOMINION ENGINEERING WORKS LIMITED

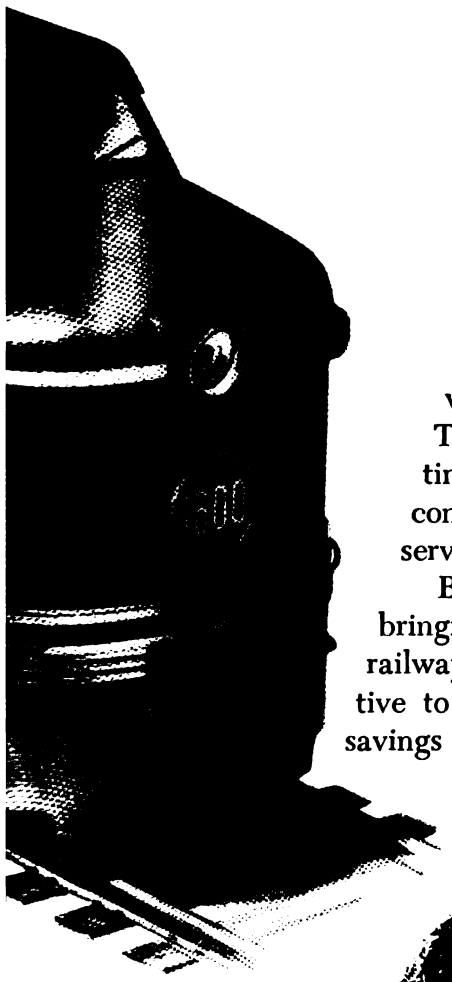
LOAD CONTROL!

This Accurate Regulating System Helps Improve Engine Performance, Reduce Maintenance, Increase Life of Equipment.

Controlling the 1600 horsepower of the MLW-GE diesel-electric freight locomotive is a power plant regulating system so responsive – so fast and precise in its operation – that it actually *anticipates* a change in load on the diesel engine . . . and automatically corrects for it before the change can affect the speed of the engine!

As a result, engine speed is held more nearly constant – at the rate called for by the throttle – than is possible with a conventional governor. This means improved performance – more economical operation.

Nerve centre of the regulating system is the new electric governor. Energized by a tachometer generator, whose output is proportional to the speed of the diesel engine, this governor transforms electric impulses into mechanical action to control the fuel racks – and hence the speed – of the engine.



But this control system does far more than merely hold engine speed constant. In addition, it quickly and automatically adjusts generator demand to correspond with the engine's ability to deliver power. It limits maximum amount of fuel that can be fed to the engine at any given throttle setting. It limits generator output.

This governing system insures unsurpassed engine performance regardless of variations in the demands placed upon it. The result is top-flight performance at all times. This diesel-electric – like all its component parts – is made for rugged service.

Built in Canada, the "1600" is already bringing new earning power to Canadian railways. Ask your MLW-GE representative to give you specific information on savings you can realize.

50-BM-7

Built in Canada

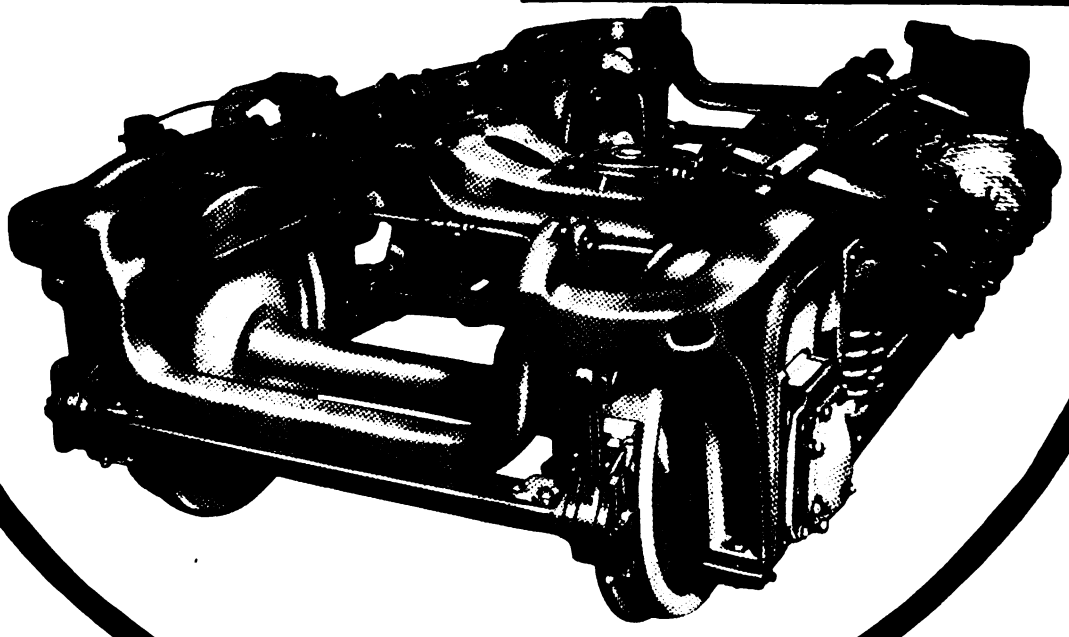
MONTREAL LOCOMOTIVE WORKS LIMITED

MONTREAL - QUEBEC

Gives you

SAFE SHORT SURE STOPS

Nothing Finer can be said about Brakes!



LIMPLEX

UNIT CYLINDER CLASP BRAKES

"Under Virtually Every Streamliner"

INTERNATIONAL EQUIPMENT CO. LTD., MONTREAL

AMERICAN STEEL FOUNDRIES

Airfoam

PASSENGER COMFORT PROVIDES OPERATING ECONOMY



AIRFOAM Provides New Riding Comfort and Economy in Motor Coaches . . .





The installation of Goodyear AIRFOAM super-cushioning in the passenger and driver's seats of motor coaches on city streets and highways provides comfort for passengers and appreciable economy for operators . . . AIRFOAM provides relaxing, jolt-softening comfort for years and years and this buoyant latex material keeps its resiliency throughout the most severe usage. Bus companies report that AIRFOAM cushioned seats, already in service for 6 to 8 years, will retain their shape and comfort for years to come.



QUICK TEST FOR REAL COMFORT

AIRFOAM gives to the lightest touch, comes back the moment pressure is lifted. It's this airy buoyancy that smothers bumps and jolts, makes AIRFOAM so comfortable to ride or rest upon.



Airfoam SUPER-CUSHIONING by GOODYEAR

AIRFOAM—T.M. The Goodyear Tire & Rubber Company of Canada Ltd. AF 5050

EVERYTHING in railroad piping

...from the Complete CRANE Line

VAST and diversified are the piping needs of Canada's railways—but they are all met, conveniently and dependably, by the complete Crane line. It provides the right valves, piping, and fittings to handle steam, water, oil, air, gas and other fluids—for mobile or stationary units—for shops and yards, cars and locomotives, station buildings and power plants.

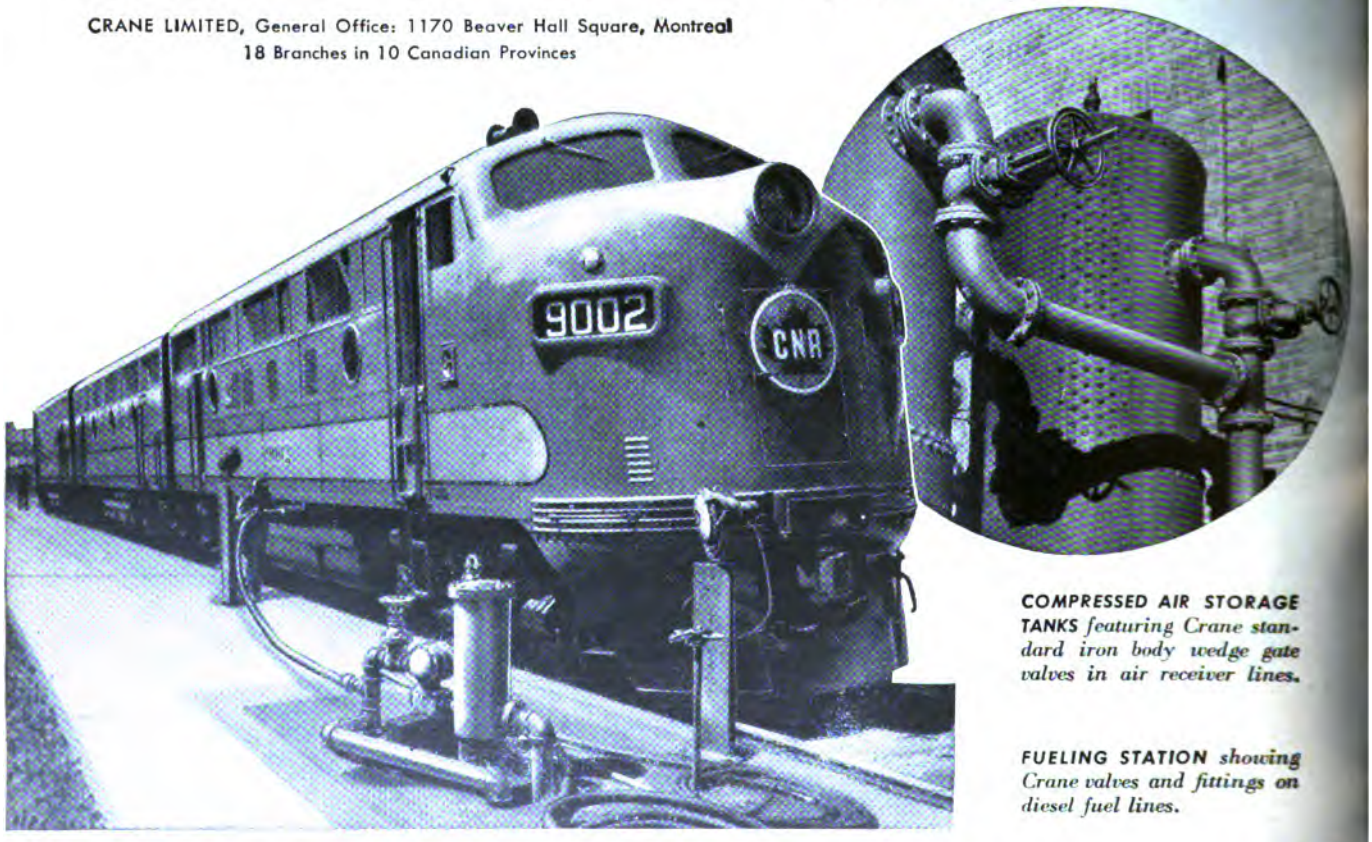
For the railways, as for so many Canadian industries, Crane provides not only a complete source of supply for everything in piping, but also the assurance of high quality in every item for long, dependable service.

For complete information on any particular requirements, ask your Crane Branch, or write direct to:

CRANE LIMITED, General Office: 1170 Beaver Hall Square, Montreal
18 Branches in 10 Canadian Provinces



***MAIN STEAM LINES** in railroad station boiler room, equipped by Crane. The broad Crane line includes all types of valve operating equipment.*



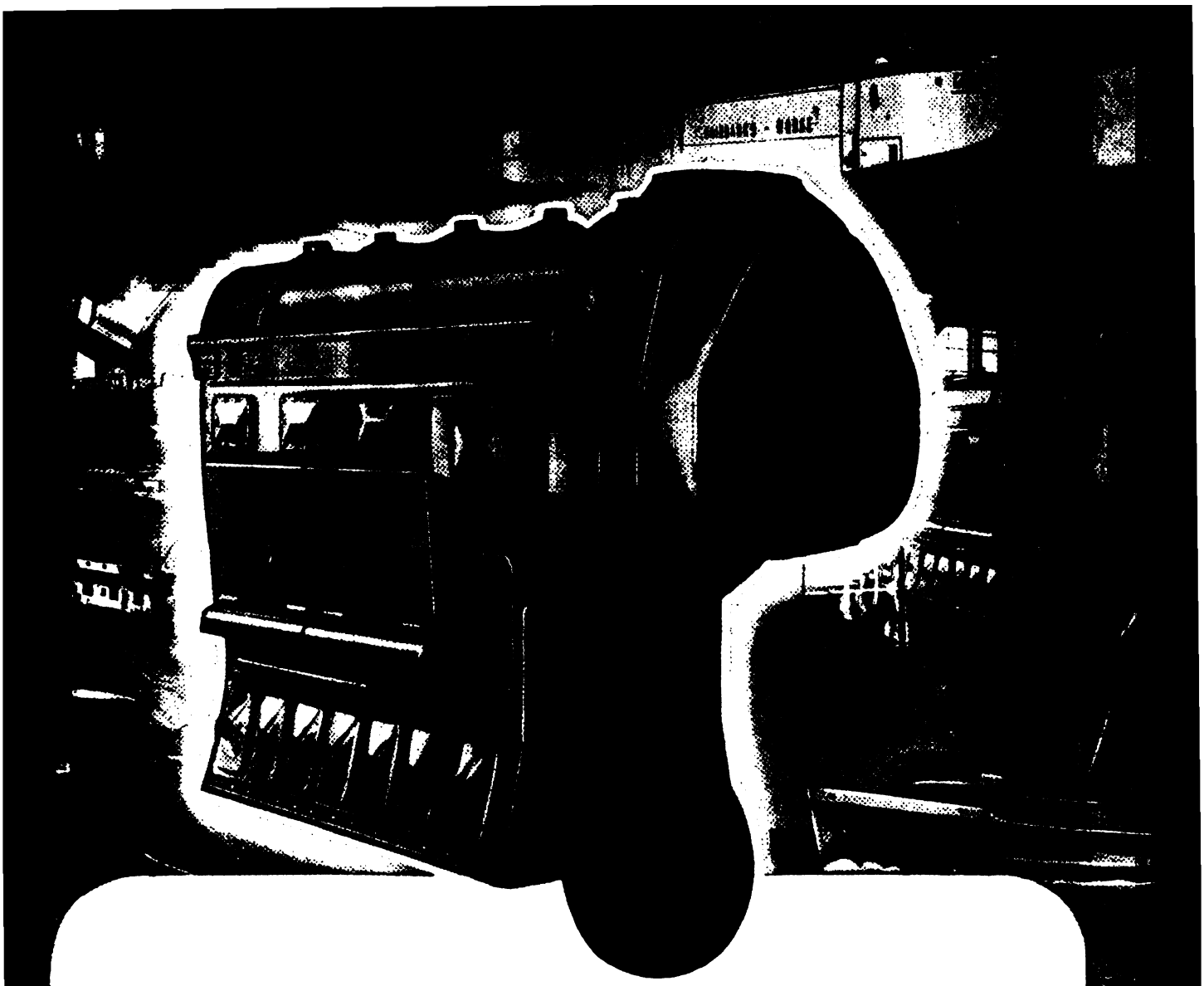
***COMPRESSED AIR STORAGE TANKS** featuring Crane standard iron body wedge gate valves in air receiver lines.*

***FUELING STATION** showing Crane valves and fittings on diesel fuel lines.*

1-9067

CRANE VALVES • FITTINGS • PIPING
PLUMBING • HEATING

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS and PLUMBING AND HEATING CONTRACTORS



VERSATILE POWER PACKAGE

. . . for Canadian Industry and Transportation!

The famous

FAIRBANKS-MORSE OPPOSED-PISTON DIESEL ENGINE

Made in Canada by

Two pistons in each cylinder, driven apart by a central combustion . . . no cylinder heads or valves . . . 40% fewer moving parts . . . MORE POWER IN LESS SPACE. The Fairbanks-Morse Opposed-Piston Diesel Engine is the power plant of tomorrow . . . here today to set new standards of efficiency and economy for industrial and marine installations . . . to drive the great new Consolidation Diesel Locomotives now setting performance records on many railroads. These trim, powerful Consolidation road and switching locomotives are now in production in the Canadian Locomotive Company's Kingston shops.

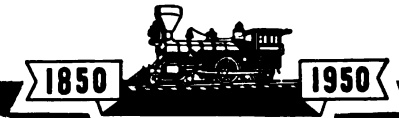


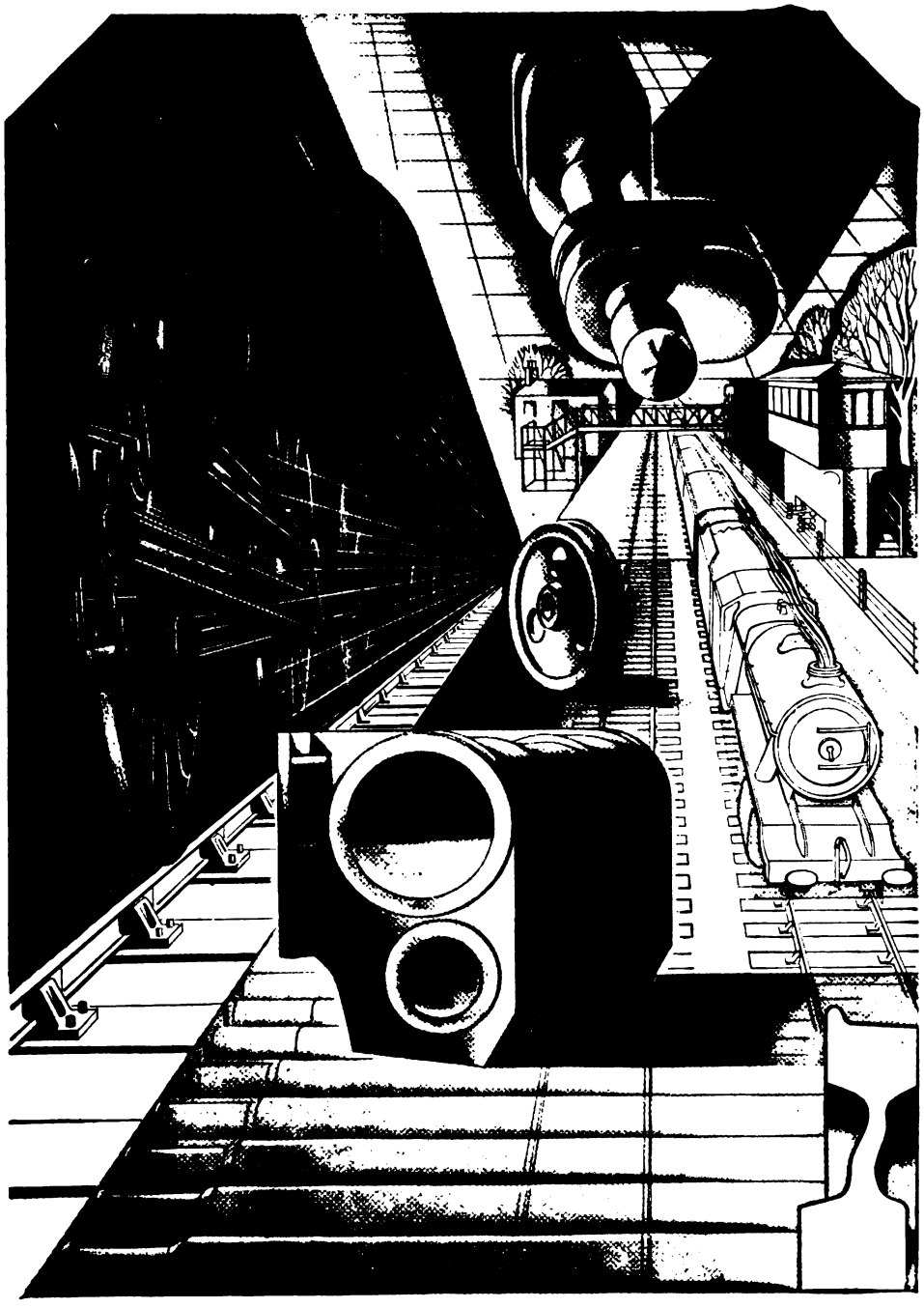
Canadian Locomotive Company Limited

85 RICHMOND ST. W. TORONTO

980 ST. ANTOINE STREET MONTREAL

KINGSTON ONTARIO





RAILWAY MATERIALS

From the various works of The United Steel Companies Ltd. a wide variety of railway materials is provided for both home and overseas requirements. The Steel, Peech & Tozer works specialises in tyres, discs, solid wheels ; in axles, straight and cranked, and in railway springs.

The Samuel Fox works produces high grade carbon and alloy steels ; the Appleby-Frodingham works steel sections and plates, including slabs for locomotive frames ; from the Workington Branch come rails and steel sleepers, and foundry and cylinder irons, completing a very wide range of railway products.

STEEL, PEECH (CANADA) LIMITED

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PARENT COMPANY

THE UNITED STEEL COMPANIES LIMITED OF SHEFFIELD, ENGLAND

The largest Steel producers in the British Commonwealth



Trade Mark—American Brass Co.

Phillips Copper and "Hitenso"* (Cadmium Copper) Trolley Wires are designed to meet your toughest service conditions. Copper Trolley Wire conforms to ASTM Specification B47. "Hitenso"* Trolley Wire conforms to ASTM Specification B9. Our Class C "Hitenso"* Trolley Wire to this specification has an excellent combination of high strength, high conductivity and resistance to wear. Consult our nearest branch office for full information.

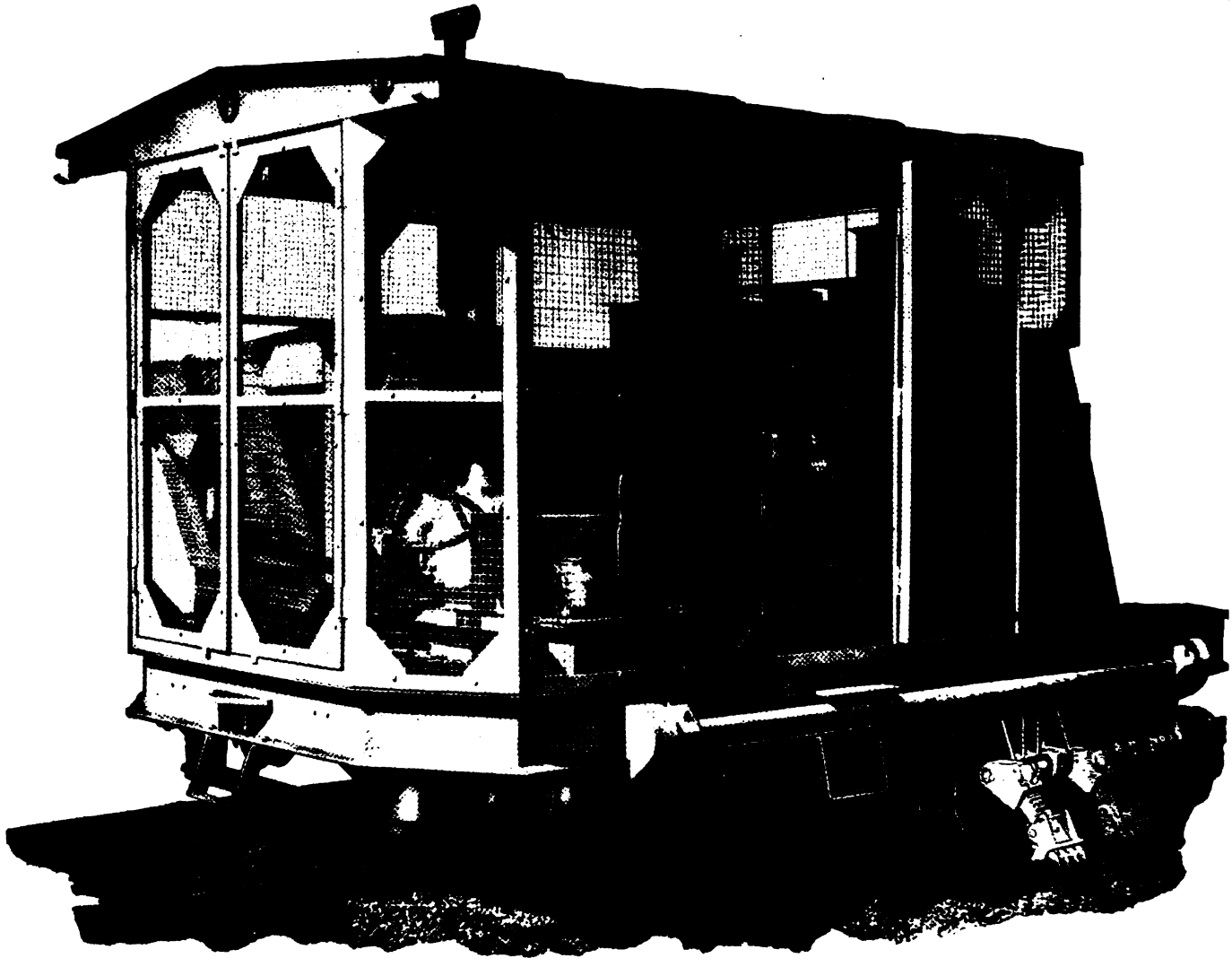
General Distributors

AUTOMATIC ELECTRIC
(CANADA) LIMITED

Give the Track Full Treatmen

CRIBBING, BALLAST CLEANING, and **TAMPING** may all be mechanized with **Pullman-Standard** track maintenance equipment.

THE POWER TRACK BALLASTER shown below tamps track more firmly and uniformly than is possible by any other method.



Pullman-Standard Car Manufacturing Co., Power Ballast Division

Exclusive Sales Representatives for Canada

THE HOLDEN CO. LIMITED

MONCTON TORONTO MONTREAL WINNIPEG VANCOUVER

AAR CERTIFICATE No. 1



THE *Symington** COMPOSITE ARTICULATED JOURNAL BOX LID

TESTED UNDER AAR SUPERVISION AND GRANTED AAR APPROVAL CERTIFICATE NO. 1

LIGHT WEIGHT • STURDY



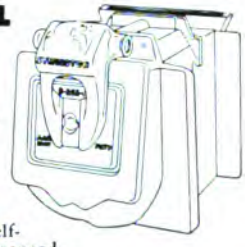
LID . . . reinforced pressing, flanged on all four sides.



HOUSING . . . cast malleable iron with hinge pin bearing surfaces of large area.

POSITIVE SEAL

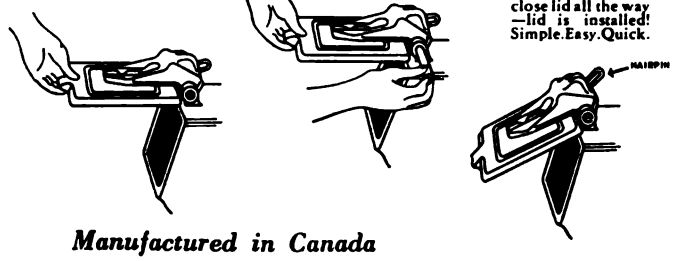
CENTER PRESSURE



Provides constant, equal pressure—on all four sides of the lid. Ball and socket joint between lid and housing makes lid self-adjusting. Full articulation regardless of hinge lug wear and tight joint are ensured.

EASY TO INSTALL

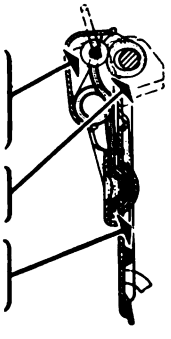
1. Place in horizontal position over hinge lug.
2. Insert pin.
3. Partially close lid until spring tension is greatest. Then remove hairpin and close lid all the way—lid is installed! Simple. Easy. Quick.



Manufactured in Canada

REDUCED WEAR

1. **HINGE LUG WEAR** *reduced* by equipping the torsion spring with a roller of adequate diameter and width which bears against the hinge lug.
2. **HOUSING WEAR** *decreased* by hinge pin bearing surfaces of large area.
3. **LID WEAR** *minimized* by light weight construction and adequate center pressure to insure tight fit and prevent vibration.



ADANAC SUPPLIES LIMITED

974 ST. ANTOINE STREET -- MONTREAL



Mr. Ingram got the forming dies!

The dies, Mr. Ingram needed, had to be manufactured to close limits, and have a high degree of wear resistance. "These are the specifications," said Mr. Ingram, unrolling several blueprints. "Now, what material do you recommend?"

We recommended Domite iron to meet his specific service requirements.

In our new booklet describing Domite irons and their uses, Mr. Ingram quickly saw the advantages of Domite for his order. "I'll take this Domite booklet for future reference," he said. "With your complete casting and machine shop setup here, I'm quite sure you'll make those blueprints come true."

Mr. Ingram got the forming dies he wanted—*when* he wanted them. He was never more satisfied.

DOMINION WHEEL SERVICES INCLUDE:

EQUIPMENT MANUFACTURE, working from blueprints and original specifications, also repair facilities.

MANUFACTURE OF SPECIAL PRODUCTS — transportation wheels, pipe and fittings, municipal castings.

DOMITE ALLOY IRONS, a superior cast metal with wide applications.

"We make blueprints come true."

DOMINION WHEEL & FOUNDRIES

LIMITED • TORONTO

PLANTS AT: TORONTO • COBOURG • ST. BONIFACE • NEW GLASGOW

CHILLED TREAD CAR WHEELS
FOUNDRY AND GENERAL ENGINEERING WORK
FLANGED PIPE AND FITTINGS
ALLOY IRON CASTINGS
DOMITE ALLOY IRONS


7001
GM
7001

F7

1500 H.P.
GENERAL MOTORS
ROAD LOCOMOTIVE

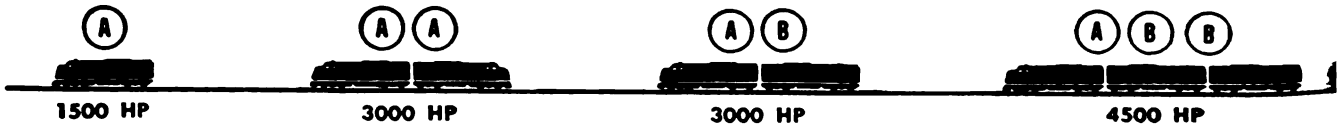
The General Motors Model F7 1500 H.P. diesel electric road locomotive is designed for both heavy duty freight and passenger service. This locomotive is available singly, or in multiple from 3000, 4500 to 6000 horsepower, using combinations of Lead ("A" units) and Booster ("B" units).

General Motors road locomotives are now operating daily on nearly all major railroads throughout United States, Canada and Mexico. They have hauled more than 100 million gross ton miles of freight and have given uniform, dependable service hauling fast and heavy duty passenger trains.

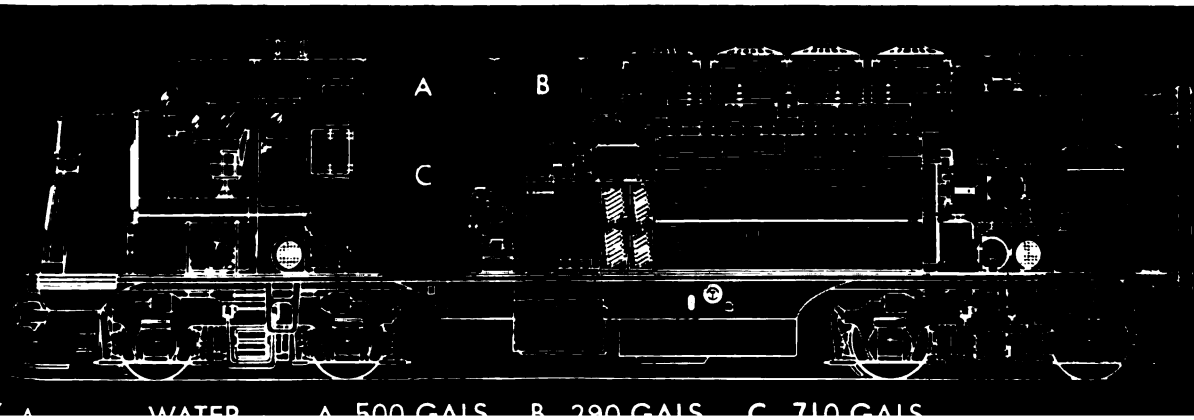
Built for Rugged Service Winter or Summer

Pictured on the front is a 4500 horsepower General Motors F7 locomotive consisting of an FP7 lead unit in combination with two F7 booster units. This picture was taken high in the Canadian Rockies as the locomotive pulled a transcontinental passenger train as a part of a rugged four months test made in both passenger and freight service during the severe winter of 1950.

General Motors road locomotives have specific features designed to meet rugged winter operation. The control of shutters and cooling fans are synchronized to maintain satisfactory operating temperatures in the engine cooling system. Combined with this is a duct provided on the roof which directs warm air back into the engine room from the discharge of one of the cooling fans. Snow and cold are also excluded by a convenient arrangement for closing off eight filter sections at the rear of the unit.



1500 HP | 3000 HP | 3000 HP | 4500 HP



EPZ A WATER A 500 GALS B 290 GALS C 710 GALS

Engine Designed for Railroad Service

Prime mover of the F7 locomotive is the 16 cylinder V-type two cycle Diesel engine designed by General Motors specifically for railroad service. Conservatively rated at 1500 horsepower input into the generator for traction this engine has many features making for easy maintenance and long trouble-free life such as the simplicity of the two-cycle design, unit injection system, positive displacement blower for scavenging air, oil cooled pistons of floating type.



Generator with A.C. Auxiliary Drive

Substantially lower maintenance costs are insured by the use of an alternator as a part of the heavy duty generator to drive auxiliary equipment. This provides a highly reliable and positive drive for engine cooling and ventilating fans, traction motor blowers and smaller auxiliary motors and enables the elimination of V-Belts, chain drives and many points of lubrication. The AC-DC generator, like the engine, is designed and built by General Motors specifically for railroad use.



Traction Motors with Silicone and Glass Insulation

General Motors traction motors are identical for all types of service: passenger, freight, or switching. Armature coils are insulated with General Motors developed hot-pressed silicone and glass. This elimination of organic material in the insulation increases the life of the motor and makes possible higher continuous ratings without corresponding increases in temperature. **Dynamic Brakes,** utilizing the high capacity of the traction motors to develop braking energy, are available as a modification on all road units.



Trucks Incorporating Outside Swing Hangar Design

The four-wheel two-motor trucks of special General Motors design provide the secret of the excellent riding and roadability of the F7 locomotive. The placing of the swing hangars outside of the frame practically doubles the base and provides stability on curves with better riding qualities and reduced body roll. The trucks are equipped with roller bearing journals and are of fully flexible type built around a rugged single piece of frame.

1500 H.P. units can be coupled to form single or double end control combinations to suit every railroad need.





4500 HP 6000 HP 6000 HP

7—An adaptation of the F7 model is available the FP7 for those railroad customers who desire "A" unit which, while equally useful in freight rvice, singly or in multiple, can also be equipped th extra large boiler water capacity for train ating on long runs in passenger service. This tra boiler water capacity is achieved by the gthening of the car body and underframe by r feet between balstar centers, making possible installation of water capacity as shown in the to the left.

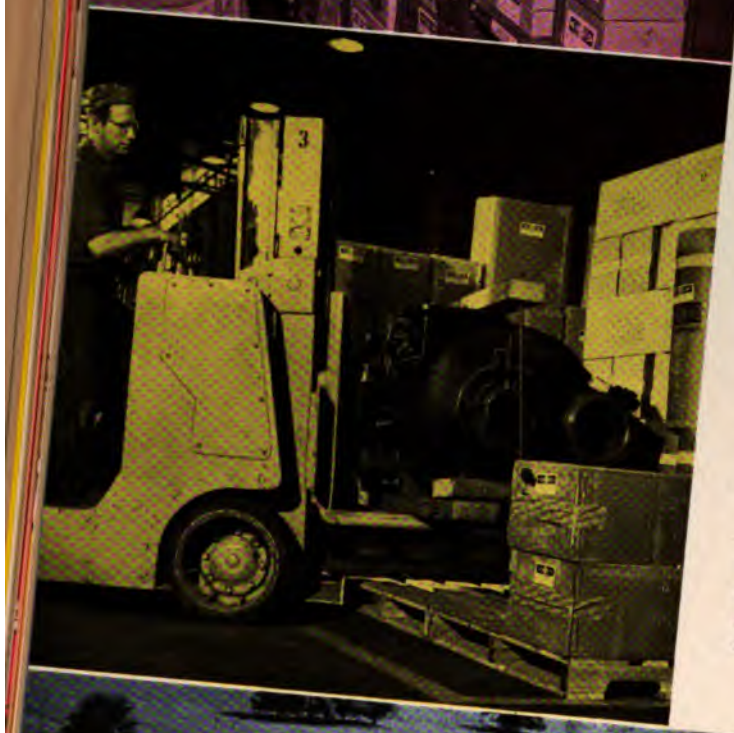
The latest in steam generators for passenger train heating is available for installation in the F7-FP7 model in capacities according to the table below. Also shown are water capacities available. Note extra water available with FP7-A unit.

	FP7-A	F7-A	F7-B
Steam Generator Capacity	2750 lbs.	2750 lbs.	2750 or 4500 lbs.
Water Capacity	1500 gals.	567 gals.	1067 gals.

NOTE—Water capacity should be reduced 500 gallons







Parts and Repair Facilities

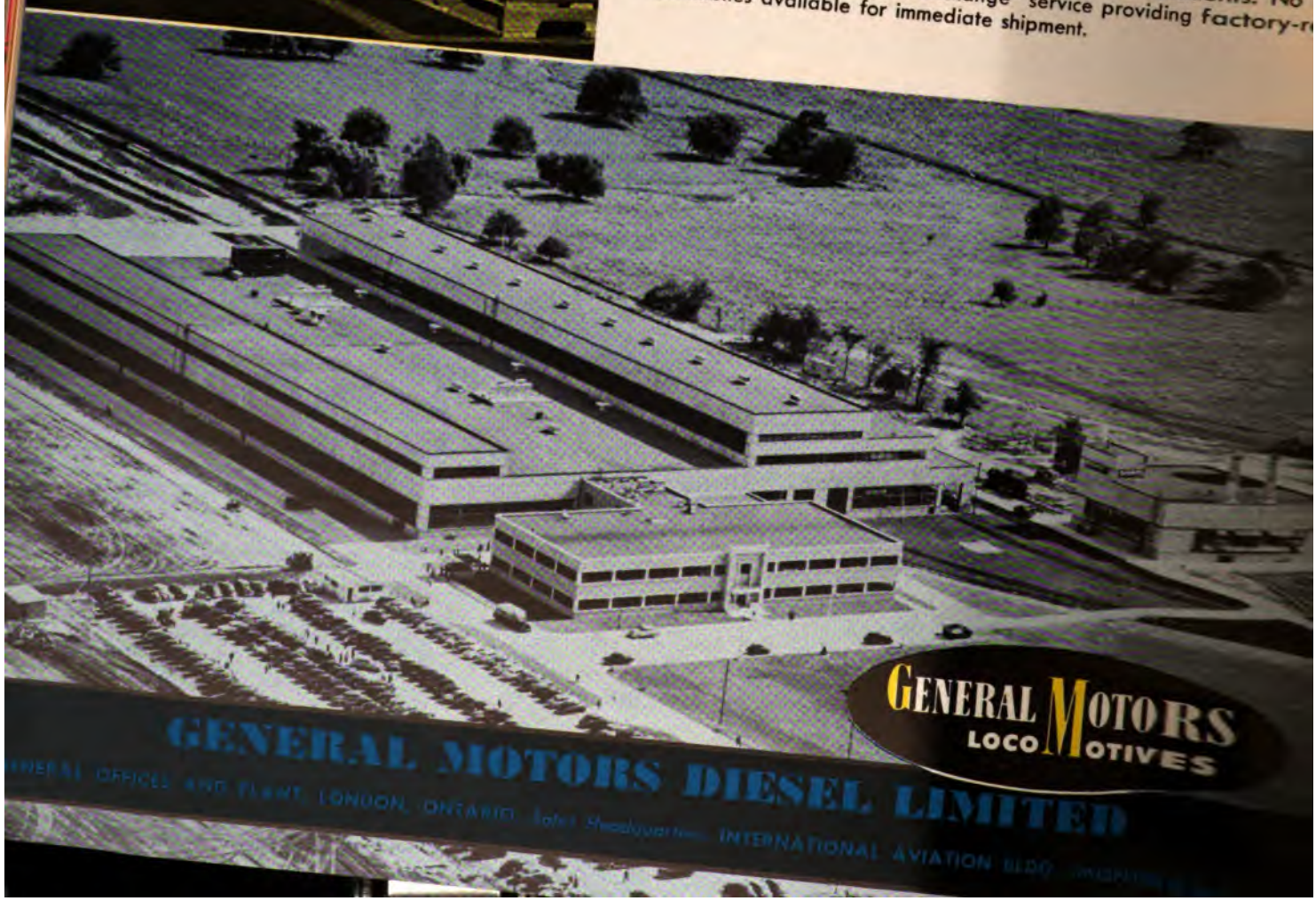
With the purchase of a General Motors locomotive goes far m
just the delivery of a satisfactory product ready for intensive
A General Motors locomotive is completely engineered, built and
by one organization. General Motors aids its railroad customers to
full utilization of this inherent advantage in its Parts and Repair
operating in conjunction with its new modern locomotive plant p
below.

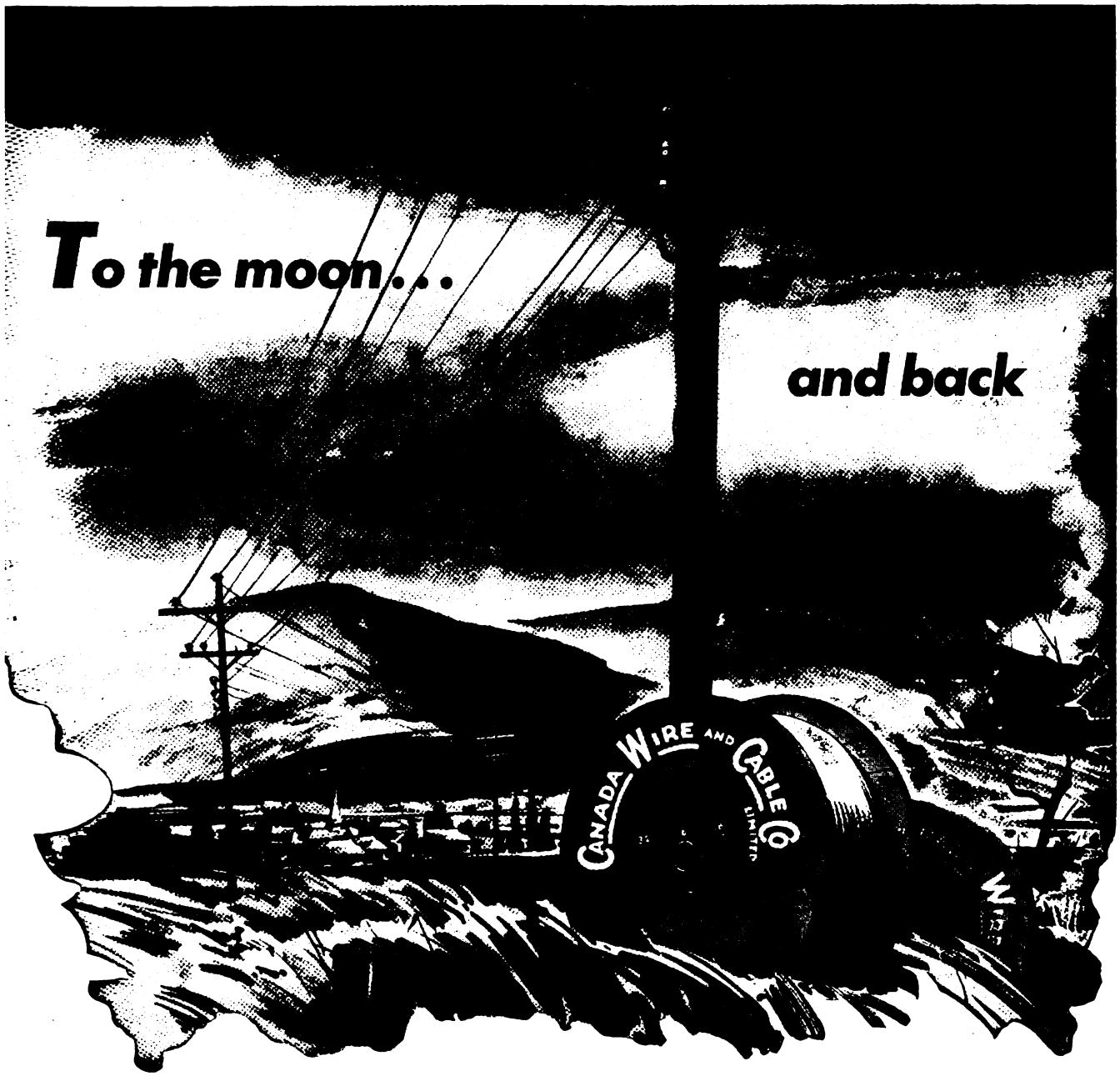
Parts Interchangeability—Substantial economies are offered
owner of a General Motors fleet of locomotives by interchange
between models. On the F7 the traction motors, the engine
liners, pistons and connecting rods are interchangeable with al
models, all switchers and road switchers. The generator, engin
complete truck assembly are interchangeable with the road sw
There are a host of lesser items which are interchangeable all contri
to economies in parts inventory and parts supply.

Parts Supply—By the very nature of their design General
locomotives need less time out for maintenance. When parts are ne
immediate availability further reduces maintenance costs. Pro
parts economically priced are readily available at the London
where modern stocking and shipping methods enable fast handl
customers' orders.

Service and Repair Facilities—In addition to a regular staff of
representatives who provide on-the-spot service assistance,
technicians from the plant staff are available to co-operate with rail
in keeping General Motors locomotives operating at peak perform

Factory Repair facilities are also provided where the latest in prod
techniques are applied to low cost repair of components sent
customers after service in the field. Everything from injectors
governors to traction motor engines and generators are protected b
service even to complete locomotives damaged in accidents. No
part of this service is "Unit Exchange" service providing factory-r
assemblies available for immediate shipment.





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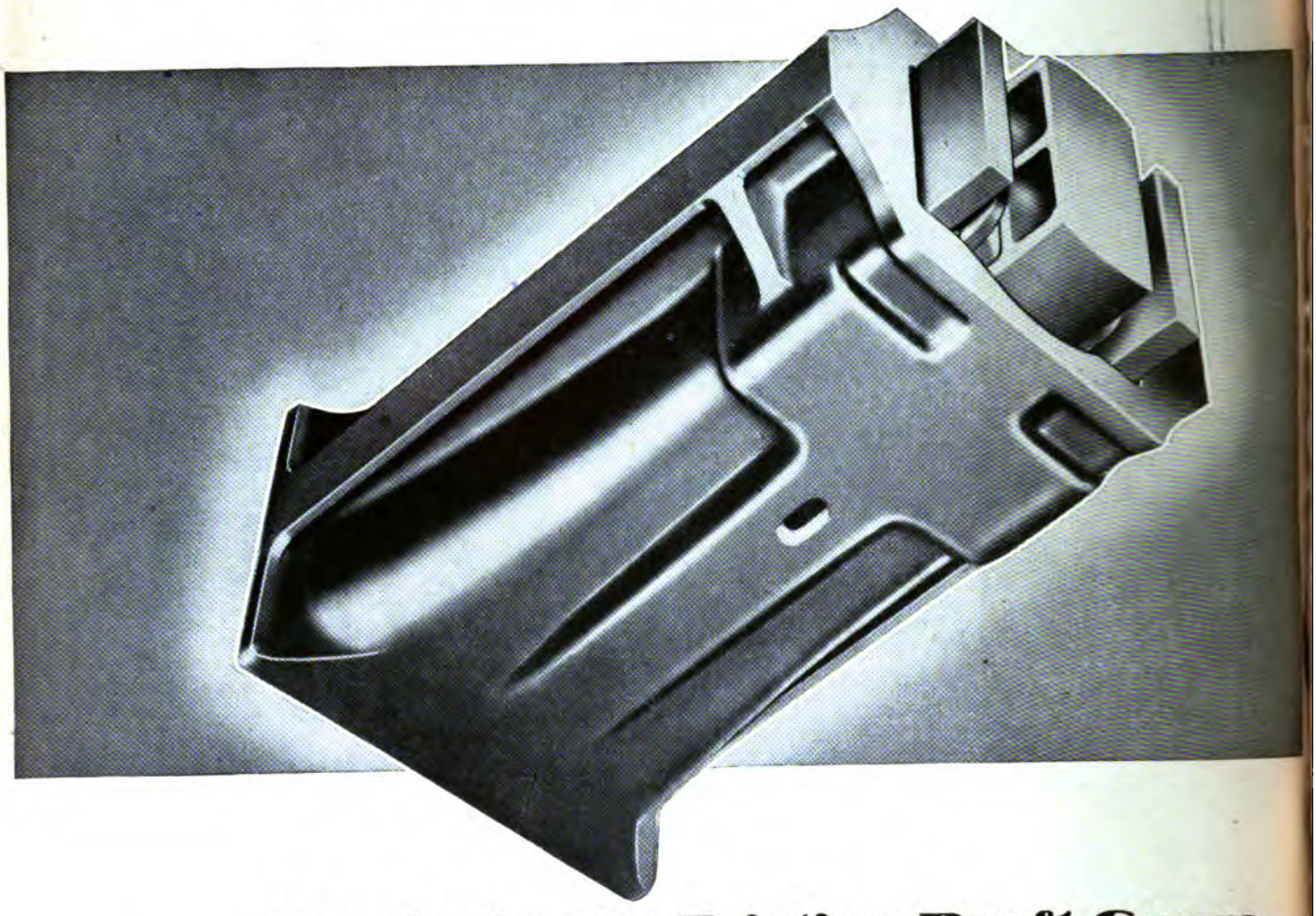
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CANADA WIRE AND CABLE COMPANY LIMITED

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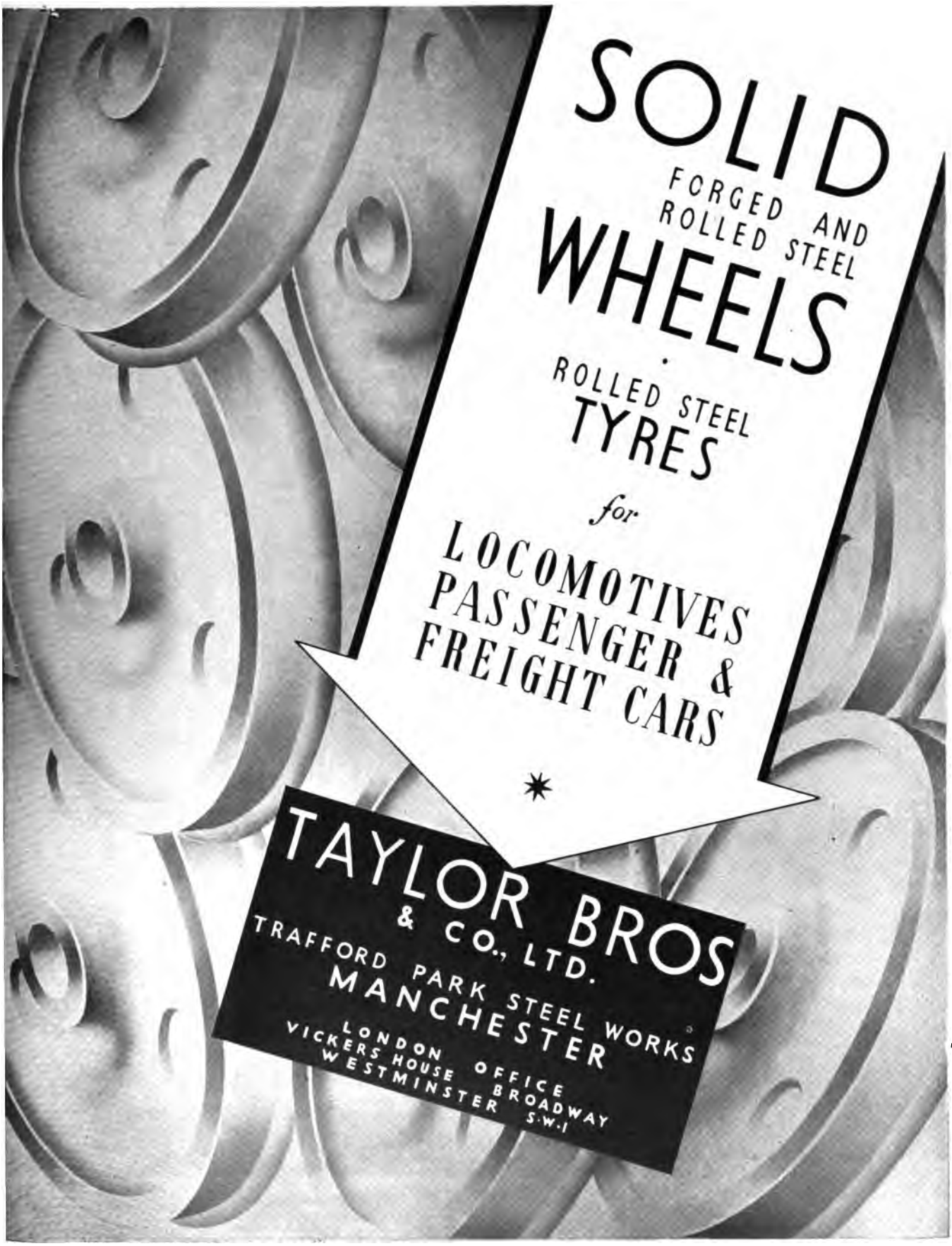
103RR

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The big thrifty GMC valve-in-head engine gives you better gasoline mileage, incorporating all the features that contribute to more economical, trouble-free engine performance.

GMC gives you your choice of chassis with standard CA dimensions of 60 inches—72 inches—84 inches—102 inches—120 inches. GMC gives you cab comfort unmatched by any other make of truck. GMC Truck cabs reduce driver fatigue, increase safety and efficiency.

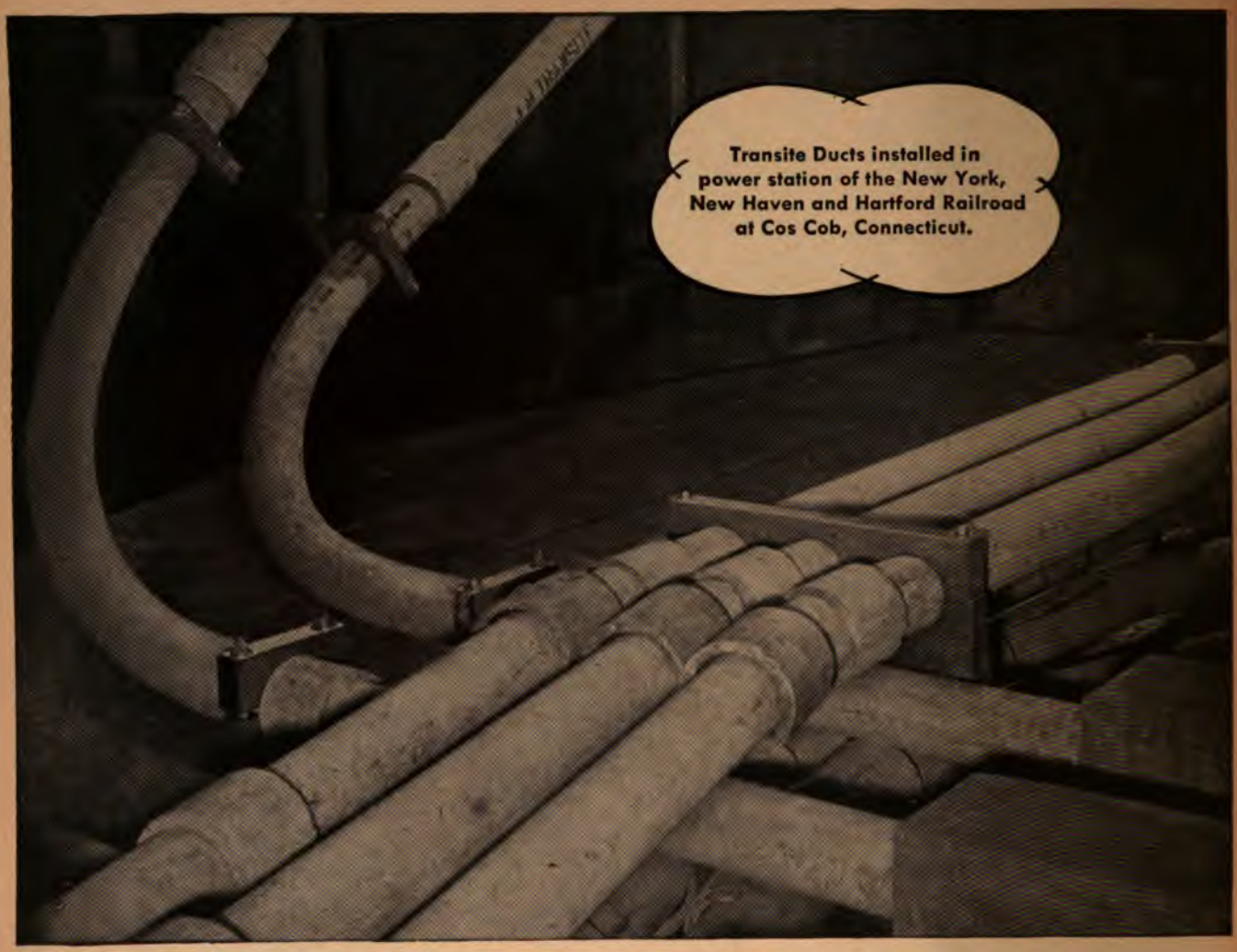
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Transite* Ducts were chosen for the important job of protecting the power lines in the New Haven's Central Power Station at Cos Cob because they meet every requirement of a low-cost efficient cableway system.

These asbestos-cement ducts provide 5 major advantages:

1. Easy to Install—Transite Ducts are light in weight and come in long 10-foot lengths that are easy and economical to assemble and install.
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3. Immune to Electrolysis—Entirely inorganic and non-metallic, Transite Ducts are immune to electrolytic or galvanic action.
4. Permanently Smooth Bore—Long cable pulls and replacements are easy with Transite Ducts. Their smooth bore minimizes damage to cables.
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*Reg. Trade Mark

For further information on how Transite Ducts can increase the safety and cut the costs of cableway systems, write Johns-Manville, 199 Bay St., Toronto, Ont.

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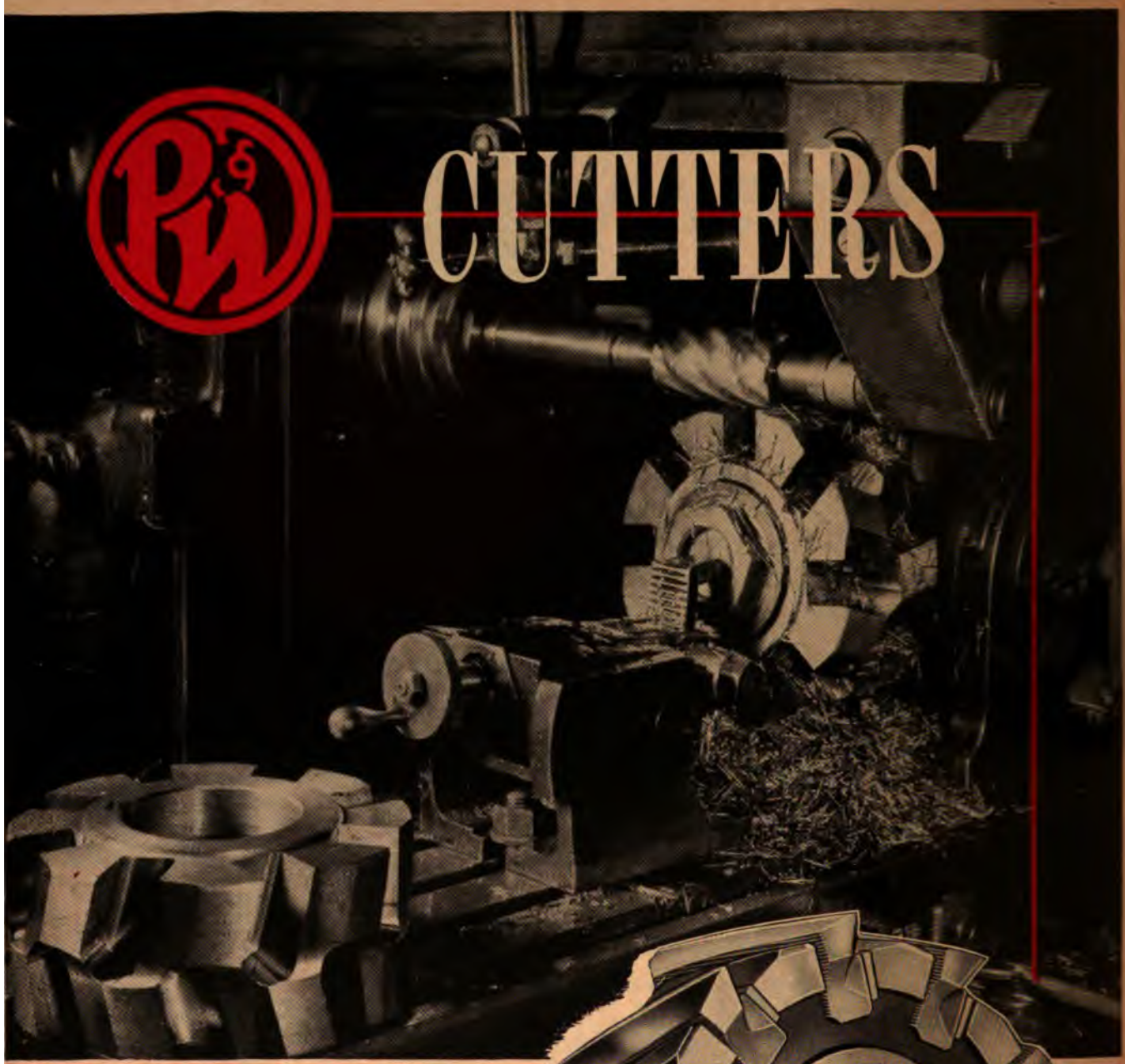
The 4-speed gear-drive "STRANDFLEX" is available in horizontal, vertical and cabinet types to meet every shop requirement.

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Canadian Transportation

Passenger Car Wheel Balancing on I.C.R.

The Illinois Central has a complete installation at its Burnside Shops with which, using production line methods, wheels are completely balanced, both statically and dynamically, at average speed of 20 minutes per pair, including the time required for making corrections.

Developments in dynamic balancing of railway car wheels are pointed up by the recent installation of a complete production line for dynamic balancing of car wheels at the Burnside shop of the Illinois Central Rd. This production line set-up, the first of its kind ever to be installed by a railway, was developed by the I. C. General Shop Superintendent, J. F. Monger and J. J. MacLeay, General Foreman Car Shop, in cooperation with the Bear Mfg. Co., Rock Island, Ill., pioneers in the field of dynamic wheel balancing. Considerable portions of the I.C. passenger car equipment are now rolling on dynamically-balanced wheels. Experience indicates that average dynamic unbalance in car wheels is between 2½ to 3 pounds per wheel, with maximum at 5 pounds. By the I. C. production-line method, wheels are completely balanced statically, as well as dynamically, in an average of 20 minutes per set. About 6 to 8 minutes are devoted to the actual balancing operation itself, while the rest of the time is required to make the corrections.

This Illinois Central experience is typical of a number of railways which have made tremendous forward strides in their own dynamic balancing work. Such development work serves to indicate that the fledgling days of railway car wheel balancing are definitely over.

According to information supplied by Messrs. Monger and MacLeay, the I. C. has already dynamically balanced wheels for all of its observation cars, diners, club and parlor cars on this new set-up. Two coaches have also been equipped with wheels balanced in this new way. Mr. Monger explained that among the many benefits of the dynamic balancing operation, "we have noted a much smoother ride, which is especially evident in dining cars, where heavy kitchen equipment makes dynamic unbalance especially noticeable. Passengers also notice unbalance more easily due to vibration of glasses and dishes on the tables." Says George R. Kimbel, Passenger Traffic Manager for the Illinois Central:—"The dynamic balancing of car wheels is another indication to the public of our desire to give them the finest, most comfortable ride possible."





Left, Fig. 1 — Right, Fig. 2.

Armatures Were Original Balancing Subjects

The dynamic balancing operation itself, as well as the many maintenance and operation economies effected from it, are not new to the Illinois Central. The road's original interest in dynamic balancing first took place several years ago, with the installation of a "Bear" dynamic balancing machine at the Burnside Diesel Shop. Dynamic balancing soon became a regular phase of the maintenance routine. In the course of balancing such mammoth rotating parts as main



Fig. 3



Fig. 4



Fig. 5

generator and traction armatures, maintenance records pointed out the time, labor and money-saving effects of dynamic balancing. As soon as the point was reached where armatures, other generator parts and air conditioning equipment were dynamically balanced regularly as a matter of routine, maintenance costs were reduced 50%. A drastic reduction in bearing wear was noticed, with consequent elimination of frequent "teardown" jobs to replace worn bearings. The life and efficiency of commutators and brushes were also increased, due to the elimination of vibration by dynamic balancing of the armature shafts.

Taking an Experimental Fling at Wheel Balancing

In the light of these outstanding results achieved with armature-balancing, I. C. maintenance officials decided to do some experimental balancing of car wheels on the "Bear" machine, whenever there was a lull in the armature-balancing activity. Changing over the "Bear" machine set-up to accommodate a set of car wheels was a simple matter. Special flexing heads, equipped with adjustable roller bearings, made it possible to easily accommodate shafts of varying diameters. Distance between column supports was also easily adjusted to accommodate the greater body length of the wheel axle. In the course of this "experimental stage", after many successful test runs and much research, the I. C. balanced all the wheels of its crack train, the "Daylight Special," which runs on a mile-a-minute schedule between Chicago and St. Louis. Other balancing operations involved the wheels of several cars of the "City of New Orleans", as well as a number of specialty cars, such as observation parlor cars, bar and lounge cars, diners, dormitory tavern cars, mail and express cars, and power cars. During this testing period. I. C. officials also found that when Diesel locomotive wheels are dynamically balanced, higher speed standards can be attained easier, and the trains perform better. Other balancing benefits included savings in wear and tear on bearings and coaches in general, as well as on the track itself.

Special Wheel-Balancing Set-up

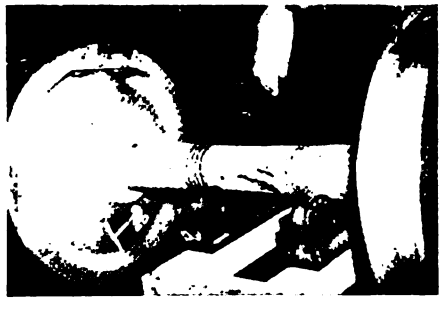
Results of these experimental dynamic balancing operations were so favorable that the Illinois Central recently installed a special wheel-balancing set-up in their Burnside Car Wheel Shop. The unique, time-saving and economical wheel-balancing system now in operation there is the result of many year's development work.

It is a far cry from their first balancing attempts, when operators had to estimate how much weight was needed to offset dynamic unbalance, and unbalance was compensated for by a tedious process of weighting "light" spots with molten metal, which had to be poured into a home-made form, clamped to the wheel. Sometimes the balancing machine was tied up for as long as 60 minutes at a time, because all corrective work was done on the machine.

Today, railway car wheel balancing has passed the pioneering stage. Wheel balancing at the I. C. is a smooth-functioning, time-and-labor-saving operation, which employs one of the most modern dynamic balancing machines and which virtually works on an assembly-line basis. Operators no longer have to guess at the exact weight of the unbalance, because the improved "Bear" dynamic balancing machine not only indicates the position of the unbalance, but also the exact amount in units of one-tenth of an ounce. As illustrated in the accompanying photographs, the operation is divided into three distinct phases, each being performed at a different station. The entire cycle averages 20 minutes per set of wheels, with about 6 to 8 minutes required for the actual balancing operation.







Above, Fig. 6—Centre, Fig. 7—Below, Fig. 8.

Illustrations and Captions

Fig. 1 is a panoramic view, showing the three "stations" involved in the I. C. balancing operation. In foreground is the track from where wheels are picked up by crane and lowered on the "Bear" Balancing Machine at right. After the balancing operation, the metal equal to the amount of unbalance is weighed out on a scale on the square stand at left of balancing machine. At far left you see the wheel stand where correction operations take place. Entire operation takes about 20 minutes on the average, with 6 to 8 minutes being required for actual balancing time, and the rest of the time devoted to correction operations.

Fig. 2 shows a pair of wheels to be balanced being lowered by crane into the balancing machine.

Fig. 3 shows the "Bear" balancing machine in action. The wheels are rotated at 325 R.P.M. for balancing. An 1800 R.P.M. motor and a four-speed transmission drive the machine, which has a maximum speed of 1000 R.P.M. Speed chart attached to left top of control tower tells operator at what speed to rotate wheels. Note dial indicator on left-hand support column, which indicates amount of unbalance, and round spark dial, which tells position of unbalance.

Fig. 4.—Babbitt metal, equal to the amount of unbalance indicated by the "Bear" Balancer, is first weighed out on the scale on the stand at right.

Fig. 5.—Scale is then ground off in those places where the metal is to be applied, as indicated by the balancer.

Fig. 6.—Next, the wheel is preheated all around its circumference. Workman at rear wheel is turning it to assure equal-distribution of heat.

Fig. 7 shows tinning of the wheel by means of torch and soldering iron for the application of the babbitt metal to correct for unbalance.

Fig. 8 shows how the wheel looks after babbitt metal has been permanently applied. As indicated in chalk on left end of axle, amount of dynamic unbalance in this particular set of wheels was 3 lbs., 2 oz.

Express Business in 1949

Although the express carriers in Canada did better last year than in 1948, having reduced the net corporate income deficit from $2,697,710 in 1943 to $1,833,038, the year was far from satisfactory. Evidently, earnings and expenses are out of line, when a deficit is the final result of gross receipts nearly 2.7 times those of 1939, in which year there was net operating revenue of $473,937.

Details of express company operations in Canada in 1949 are presented in figures supplied recently by the Dominion Bureau of Statistics, Transportation Division. Last year, the Canadian express carriers had gross receipts from operation totalling $51,966,290, and after payment of express privileges (payable to the railways for carriage of express matter) their operating revenues were $30,739,473. However, operating expenses were $32,385,223, resulting in an operating deficit of $1,645,750. After taking in net revenue from outside operations and other income, and after deductions from gross corporate income, there was a net corporate income deficit of $1,833,038. In 1948 there was a net corporate income deficit of $2,697,710. The year 1949 was the fourth in which there was a debit in net operating revenue. Gross revenue of the carriers as a whole established a new high record last year, having been $5,157,178, or 11% greater than those of 1948, and nearly 2.7 times the 1939 gross of $19,410,091.

The Canadian express carriers are the Canadian National Rys. Express Department; the Canadian Pacific Express Co. (which operates as a subsidiary of the Canadian Pacific Ry. and handles the express business of the parent company); The Northern Alberta Railways Express Department, and the Railway Express Agency. The Railway Express Agency operates mainly over the Canadian sections of United States railways, such as the Canada Southern, the Wabash, and the Pere Marquette Division of the Chesapeake and Ohio. All statistics of the express departments of the Canadian National and the Northern Alberta are also included in the annual steam railway figures of the Dominion Bureau of Statistics. Only the net operating results of the Canadian Pacific Express Co. are carried over into the income of the C.P.R., and employees, etc., are not duplicated. The Railway Express Agency, Inc., is owned by 70 Class 1 U.S. railways, and net profits are apportioned according to the gross express revenues on lines party to the agency agreement. Any net revenue in Canada usually equals taxes.

Income Account.—The income account figures for 1949 for the express carriers individually and collectively are given in the accompanying table 1, wherein it is seen that the Canadian National Rys. Express Department had a net corporate income deficit of $2,131,447 for the year, while the Canadian Pacific Express Co. had net corporate income of $248,476, and the Northern Alberta Railways Co. Express Department had net corporate income of $49,933. After payment of express privileges and operating expenses, the C.N.R. Express Department net operating deficit was $1,999,411, while after similar charges the Canadian Pacific Express Co. had net operating revenue of $287,932 and the Northern Alberta Rys. Express Department had net operating revenue of $50,195.

Capital.—Total capital of the express carriers at the end of 1949 was $6,251,679, made up of $5,768,800 stocks and $482,879 bonds. The C.N.R. Express Department capital was $3,251,679, made up of $2,768,800 stocks and $482,879 bonds, while the Canadian Pacific Express Co. capital was $3 million in stock.

Property Investment.— The total investment of the express carriers in lands, buildings and equipment at the end of 1949 was $7,797,620, made up of $3,168,171 in lands and buildings and $4,629,449 in equipment. The C.N.R. Express Department investment was $2,272,151, made up of $82,479 in lands and buildings, and $2,189,672 in equipment. The Canadian Pacific Express Co. investment was $5,421,061, made up of $3,085,692 in lands and buildings (including value of miscellaneous property not used exclusively in express operations), and $2,335,369 in equipment.

Table 1—Express Carriers' Income Account Figures, 1949

	C.N.R. Express Dept.	C.P. Express Co.	N.A.R. Express Dept.	Ry. Express Agency	Total
	$	$	$	$	$
Gross receipts from operation	26,429,288	23,615,569	519,099	1,402,424	51,966,290
Express privileges "Dr."	11,654,500	8,654,923	239,743	677,651	21,226,817
Operating revenues	14,774,788	14,960,646	279,266	724,773	30,739,473
Operating expenses	16,774,199	14,672,714	229,071	709,239	32,385,223
Net operating revenue	Dr. 1,999,411	287,932	50,195	15,534	Dr. 1,645,750
Net revenue from outside operations		123,304			123,304
Total net revenue	Dr. 1,999,411	411,236	50,195	15,534	Dr. 1,522,446
Taxes	134,345	270,564	262	15,534	420,705
Operating income	Dr. 2,133,756	140,672	49,933		Dr. 1,943,151
Other income	3,726	141,760			145,486
Gross corporate income	Dr. 2,130,030	282,432	49,933		Dr. 1,797,665
Deductions	1,417	33,956			35,373
Net corporate income	Dr. 2,131,447	248,476	49,933		Dr. 1,833,038

Operating Revenues.—Not all of the earnings of the express carriers are derived from transportation, there being many other sources of income, including money orders, travellers' cheques, C.O.D. cheques, etc. Details of the sources of revenue in 1949, and the amount derived from each, for the express carriers individually and collectively, are shown by the figures in the accompanying table 2.

Operating Expenses.— The operating expenses of the express carriers, individually and collectively, in 1949, are recorded in the accompanying two-column table 3.

Taxes.— The express carriers, like practically all other institutions and most individuals, are called upon to pay plenty of taxes, and total taxes in 1949 were $420,705, levied by taxing authorities as follows:—Prince Edward Island, $97; Nova Scotia, $714; New Brunswick, $2,214; Quebec, $32,564; Ontario, $61,937; Manitoba, $8,528; Saskatchewan, $7,495; Alberta, $3,475; British Columbia, $5,328; foreign, $3,676; Dominion of Canada, $189,203; other taxes, $105,474.

The C.N.R. Express Department paid out a total of $134,345 in taxes; The Canadian Pacific Express Co., $270,564; the Northern Alberta Rys. Express Department, $262, and the Railway Express Agency, $15,534.

Financial Paper.—Money orders, domestic and foreign, handled by the express companies last year, represented a total value of $131,358,491, of which $79,983,149 was handled by the C.N.R. Express Department and $51,375,342 by the C.P. Express Co. Travellers' cheques totalled $8,250,196, of which $324,857 were issued by C.N.R. Express Department and $7,925,339 by C.P. Express Co. C.O.D. cheques totalled $23,527,669. C.N.R. Express Department C.O.D. cheques are included in its money order figures, while C.O.D. cheques issued by the C.P. Express Co. totalled $22,786,277.

Offices.—At the end of last year, there were 3,345 express offices in Canada, of which the C.N.R. Express Department had 1,709, the C.P. Express Co. 1,491, the N.A.R. Express Department, 52, and the Railway Express Agency, 93. In addition, offices selling express money orders totalled 8,587, of which 3,884 handled C.N.R. Express Department orders and 4,703 C.P. Express Co. orders.

Mileage and Routes.—At the end of last year, express service was given over a total route mileage (land and inland water) of 52,127.01 ,and over

Table 2—Operating Revenues of Express Carriers in 1949

	C.N.R. Express Dept.	C.P. Express Co.	N.A.R. Express Dept.	Ry. Express Agency	Total
	$	$	$	$	$
Revenue from Transportation—					
Express revenue	25,618,277	22,723,718	518,815	1,251,802	50,112,612
Miscellaneous transportation revenue	37,823	111,946			149,769
Total	25,656,100	22,835,664	518,815	1,251,802	50,262,381
Revenue from Outside Operations other than Transportation—					
Custom brokerage fees	3,658	10,413			14,071
Money orders—domestic and foreign	293,263	305,271			598,535
Travellers' cheques " " "	755	51,130			51,885
C.O.D. cheques	471,208	364,603			835,811
Telegraphic transfers		7,061			7,061
Other revenue—Finance Department		39,627			39,627
Miscellaneous revenue	4,303	1,800	194	150,622	156,919
Total	773,188	779,905	194	150,622	1,703,909
Gross receipts from operation	26,429,288	23,615,569	519,009	1,402,424	51,966,290

2,679 miles of ocean route. The C.N.R. Express Department was giving service over 28,398.46 miles of land and inland water route (23,203.42 miles over steam railways, 120.42 miles over electric railways, 4,718.72 miles by steamship lines including ocean routes, and 355.9 miles by motor carrier). The C.P. Express Co. was giving service over 18,925.33 miles of land and inland water route (17,170.81 miles over steam railways, 78.32 miles over electric railways, 1,113 miles by steamship route and 563.2 miles by motor carrier), and also over 2,679 miles of ocean route.

The mileage of express service routes in the various provinces was:—Newfoundland, 4,063.13; Prince Edward Island, 276.23; Nova Scotia, 1,372.96; New Brunswick, 2,003.17; Quebec, 5,071.62; Ontario, 11,569.81; Manitoba, 4,874.33; Saskatchewan, 8,894.48; Alberta, 5,663.58; British Columbia, 7,208.24; Yukon, 830.80. Also, service was given over 298.66 miles of route in the United States.

Employees.—Last year, the express carriers had 8,809 employees, of which the C.N.R. Express Department had 4,699, the C.P. Express Co., 3,961, the N.A.R. Express Department, 12, and the Railway Express Agency 137. Total salaries and wages paid, including those paid to part-time employees, were $23,621,322, of which $12,648,186 was paid by the C.N.R. Express Department, $10,515,945 by the C.P. Express Co., $54,901 by N.A.R. Express Department and $402,290 by Railway Express Agency. Commissions paid totalled $2,283,425, of which $1,159,786 was paid by the C.N.R. Express Department, $1,057,585 by the C.P. Express Co., $39,017 by N.A.R. Express Department and $27,037 by Railway Express Agency.

Results, 1938-1949.—Leading statistics of the express carriers, for the years 1938-1949 inclusive, are presented in the accompanying three-column table 4.

Historical Information.—In presenting the 1949 figures, the Bureau gives much historical information of interest, as in the following.

In England express business has always been handled by the railway companies and package freight there which corresponds to express here is under the railway traffic department. However, on this continent the history of the organization of the express business dates back to 1839 and was the result of the initiative of a former conductor and passenger clerk named Harndon, who advertised arrangements to carry small parcels and packages between Boston and New York and attend to purchase of goods and the collections of drafts, notes and bills. Later Adams established service to the West Coast via Panama. The various pony express companies were grouped into the colorful Wells-Fargo Express Company in 1866. By 1900 most of the American express business was done by four large companies and in 1918 under Federal Control one operating unit, the American Railway Express Company, was formed. Whereas the United States express companies were started as concerns entirely distinct from the railroads, the Canadian companies were organized at first and remained as subsidiaries of the railway companies who owned their stock.

Table 3—Express Carriers' Operating Expenses, 1949

	C.N.R. Express Dept.	C.P. Express Co.	N.A.R. Express Dept.	Ry. Express Agency	Total
Maintenance	$472,148	$484,068	$.....	$38,282	$994,498
Traffic	140,880	146,392	1,710	5,302	294,284
Transportation	15,551,503	13,265,999	216,357	631,620	29,665,479
General	609,668	776,255	11,004	34,035	1,430,962
Total	16,774,199	14,672,714	229,071	709,239	32,385,223

The first express company in Canada was organized in 1865 and named the Canadian Express Company and all its capital stock was purchased in 1892 by the Grand Trunk Railway Company. The Dominion Express Company was incorporated in 1882, in trust for the Canadian Pacific. The Canadian Northern Express Company appeared in 1902 and was acquired outright by the railway company in 1908. Severed smaller companies also operated in Canada as well as the United States companies participating in the international business between the two countries. The Canadian Express and Canadian Northern Express Companies were merged in the Canadian National Express upon amalgamation of the railways in 1923. The Northern Alberta Express business (formerly Central Canada Express Co.) is under joint C.P.R.-C.N.R. operation since 1929.

Express rates were originally based on 2½ times the maximum first class freight rate between the same points. On the other hand the express company contracted to pay the railways for hauling express 50 p.c. more than the railways' first class freight rate between these points. Second class express rates were established at lower levels, usually equal to the first class freight rate, and were designed to cover the movement of perishables, such as milk, cream, butter, cheese, fruit, meat, fish and vegetables, etc. The basis of contract with other than the parent railway company was usually 50 p.c. of gross earnings obtained for the service on these lines.

In 1919, a new rate system was established which grouped the country into three main blocks or districts for express purposes and greatly simplified calculation of rates, particularly with a view to uniformity with the United States practice. The services offered by the express companies, other than the transportation of goods, include custom brokerage, money orders, travellers' cheques, C.O.D. cheques, telegraphic transfers, letters of credit and other services. Express rates have fluctuated over the years and have been governed to some extent by the decisions of the Board

Table 4—Express Carriers' Leading Statistics, 1938-1949

Year	Gross Earnings	Operating Expenses	Express Privileges	Net operating Revenue	Investments	Employees	Salaries & Wages	Commissions	Money transferred by Express Orders, etc.
1938	$17,674,477	$10,325,329	$7,417,127	Dr. $67,979 Dt.	$5,635,266	4,678	$7,222,887	$954,354	$68,176,988
1939	19,410,091	10,622,936	8,313,218	473,937	5,753,850	4,737	7,412,300	967,227	67,057,633
1940	26,067,019	11,095,071	12,650,274	2,321,674	6,005,940	4,843	7,672,761	1,001,470	66,873,885
1941	22,933,227	12,202,191	10,113,218	617,818	6,283,134	5,084	8,451,872	1,139,474	79,420,537
1942	25,725,512	13,391,508	11,388,477	945,527	6,447,393	5,296	9,417,112	1,253,428	93,138,055
1943	32,875,971	15,824,160	15,323,905	1,727,906	6,610,648	5,936	10,837,037	1,569,453	108,474,147
1944	34,357,760	18,856,659	15,301,512	199,589	6,751,797	6,705	13,263,739	1,729,195	115,893,548
1945	37,171,862	20,040,339	16,711,647	419,876	6,955,614	7,160	13,945,167	1,846,884	118,070,065
1946	39,260,553	22,670,616	16,841,229	Dr. 251,292 Dt.	7,495,728	7,430	16,060,439	1,975,856	140,324,298
1947	42,314,758	25,770,190	17,650,061	Dr. 1,105,493 Dt.	7,908,208	8,017	18,308,793	1,995,947	155,402,845
1948	46,809,112	30,398,053	18,785,988	Dr. 2,374,929 Dt.	7,232,764	8,525	22,212,249	2,157,489	164,223,860
1949	51,966,290	32,385,223	21,226,817	Dr. 1,645,750 Dt.	7,797,620	8,809	23,621,322	2,283,425	163,323,878

In the above table, the number of employees is the total number of full-time employees. The salaries and wages include wages paid to full and part-time employees.

of Transport Commissioners.

More recently, express service has been offered by motor carriers and airlines and their annual statistics are included in Bureau reports under "Motor Carriers, Freight and Passenger" and "Civil Aviation" respectively. The airlines often utilize the pick-up and delivery facilities of the railway express companies.

Special express rates issued to meet motor truck competition within Canada were increased by 8 p.c. effective October 11, 1949.

Diesels For C.N.R. Lines in P.E.I.

The ordering by Canadian National Rys. of eighteen 72-ton Diesel-electric locomotives, from Canadian General Electric Co., Ltd., for general service on Prince Edward Island, was recorded in our June, 1949, issue, pg. 305, where it was mentioned that the locomotives were ordered to enable the railway management to carry out its policy of Dieselizing the P.E.I. lines. It was also noted that the locomotives are of a class which can be operated in single units, each of 600 h.p., or in multiples of two or more units. These locomotives, built in Erie, Pa., have now been delivered and placed in service, and an illustration, showing two of them, appears herewith. We hope to describe these locomotives in an early future issue.

Freight Car Condition

Advice from the Car Service Division of the Association of American Railroads is that on September 1 there were 1,719,427 railway-owned freight cars on United States Class I railway lines, of which 108,346, or 6.3% of total, were awaiting or undergoing repairs, and that on Canadian railway lines there were 170,418 railway-owned freight cars, of which 8,592, or 5% of total, were awaiting or undergoing repairs.

In the following are specified the numbers of the various classes of railway-owned freight cars on U.S. Class I lines on September 1, the numbers of the various classes awaiting or undergoing repairs, and the percentages of such cars on lines.

Classes of Cars	Total Cars on Lines	Cars for Repairs	% of Total
Box, plain and ventilated	650,079	31,406	4.8
Automobile	54,667	2,842	5.2
Gondola	286,430	18,882	6.6
Hopper, open top	561,831	45,922	8.2
Hopper, covered	21,851	268	1.2
Stock	46,434	3,876	8.3
Flat	46,555	1,958	4.2
Refrigerator	18,746	1,400	7.5
Tank	7,722	356	4.6
All freight cars	1,719,427	108,346	6.3

Privately-owned Cars on U.S. Lines.—On September 1 there were 222,212 privately-owned freight cars on U.S. Class I lines, of which 1,046, or 0.5% of total, were awaiting or undergoing repairs. Included were 103,583 refrigerator cars, of which 537, or 0.5% of total, were awaiting or undergoing repairs, and 110,944 tank cars, of which 496, or 0.4% of total, were awaiting or undergoing repairs.

Canadian Lines.—Following are particulars of railway-owned freight cars, numbers in bad order and percentages of totals on individual Canadian lines on September 1:—Algoma Central and Hudson Bay, 1,498 cars on lines, 71 in bad order, 4.7% of total; Canadian National, 91,116, 5,501, 6%; Canadian Pacific, 75,328, 2,853, 3.8%; Ontario Northland, 1,438, 46, 3.2%; Toronto, Hamilton and Buffalo, 1,038, 121, 11.7%.

Efficient Operation in U.S.

Railways in the United States moved more freight in the average freight train and moved the trains faster in the first six months of 1950 than ever before, William T. Faricy, president of the Association of American Railroads, announced recently. The result was, he added, that the average output of transportation for each hour of freight train operation was higher than ever before attained.

Tons of freight moved one mile for each hour of train operation averaged 19,708 ton miles in the six months period this year, a high average never before attained. In 1949 the average for the year was 19,023 ton miles, and in 1944, the peak year in the second world war, it was 17,623 ton miles.

Freight trains on the average moved 1.2% faster in the first six months of 1950 than they did in the same period of the previous year and 8% faster than in 1944.

The average load per freight train for Class I railroads in the first six months of 1950 was 1,175 tons, compared with 1,149 in the same period in 1949, and 1,139 tons in 1944. The average in the first half of 1950 was higher than ever before attained, except in 1948, when it was 1,176 tons.

This new high record in freight train operating efficiency has been made possible because of improved operating methods, larger and more efficient locomotives, better freight cars, and improved signalling and other devices.

C.N.R. and C.P.R. September Results

Both transcontinental railways secured larger net earnings in September this year than in September, 1949. On the Canadian National (whole system), gross earnings were $7,357,000 greater in September this year than in the month last year, while operating expenses were up by $2,608,000, with the result that the net in September this year, $8,742,000, exceeded that earned in the month last year by $4,749,000. In the first nine months of this year, C.N.R. gross was up by $31,017,000, and operating expenses by $2,588,000, with the result that the net earnings in the period this year, $34,817,000, exceeded those for the 1949 period by $28,429,000.

On the Canadian Pacific, gross was $4,358,204 greater in September this year than in the month last year, while operating expenses increased by $1,647,572. Net for the month this year, $4,926,268, exceeded that for the 1949 month by $2,710,632. In the first nine months of this year, C.P.R. gross earnings increased by $5,197,136 over those for the 1949 period, while operating expenses were decreased by $6,910,643. Net for the period this year, $20,611,024, exceeded that for the 1949 period by $12,107,779.



Two of the New Diesel-electric Locomotives for Canadian National Rys., Prince Edward Island Lines, Supplied by Canadian General Electric Co., Ltd.

Railway Operating and Financial Results

June, 1950 and 1949

	All Railways		Canadian National Rys.		Canadian Pacific Ry.	
	June, 1950	June, 1949	June, 1950	June, 1949	June, 1950	June, 1949
Operating Revenues:—						
Freight	$64,418,726	$54,379,456	$32,912,000	$26,642,000	$25,625,376	$22,246,405
Passenger	7,370,242	8,224,775	3,592,800	3,862,900	3,358,019	3,775,493
Mail	763,422	742,400	345,494	327,477	342,111	330,449
Express	3,303,299	3,107,653	†2,380,355	†2,299,350	812,827	682,204
Other passenger train	1,076,700	1,064,940	426,879	387,864	626,142	649,775
Water line	399,145	420,105			151,133	181,788
All other	3,722,183	3,166,989	2,025,072	1,929,409	1,407,036	983,594
Total railway operating revenues	81,053,717	71,106,318	†41,682,600	†35,449,000	32,322,644	29,869,988
Operating Expenses:—						
Maintenance of way and structures	16,112,855	14,809,732	7,024,231	7,081,042	7,612,372	6,262,688
Maintenance of equipment	15,677,318	15,757,375	8,799,521	8,157,874	5,794,284	6,425,489
Traffic	1,538,097	1,511,201	693,441	717,509	739,812	691,945
Transportation	31,891,009	31,522,652	17,539,549	17,151,114	11,872,715	11,974,513
Miscellaneous operations	1,233,022	1,207,022	447,439	432,785	651,736	648,721
General	3,531,258	3,717,812	1,766,357	1,623,965	1,500,224	1,825,810
Total railway operating expenses	69,983,559	68,525,794	36,270,538	35,164,289	28,171,143	27,829,569
Operating Income:—						
Net operating revenue	11,070,158	2,580,524	5,412,062	284,711	4,151,501	1,239,346
Railway tax accruals	1,591,156	1,299,260	620,085	610,663	739,294	459,938
Hire of equipment	Dr. 919,915	Dr.1,033,831	Dr. 357,706	Dr. 337,049	Cr. 159,222	Dr. 167,804
Joint facilities rents	Dr. 186,772	Dr. 154,810	Cr. 14,002	Cr. 6,596	Dr. 132,005	Dr. 100,771
Operating income	8,372,315	92,623	4,448,273	Dr. 656,403	3,439,424	511,033
Operating Statistics:—						
Average miles of road operated	43,215.57	43,227.67*	22,411.77	22,410.27*	17,019.3	17,033.2
§No. of tons carried (Rev. Fr.)	13,310,945	12,363,320*	5,791,410	5,182,305*	4,569,903	4,368,482
No. of tons carried one mile (Rev. Fr.) Thous.	4,442,134	3,993,445*	2,259,910	1,936,175*	1,827,777	1,722,928
No. of tons carried one mile (All Fr.) Thous.	4,919,018	4,466,104*	2,532,897	2,192,439*	2,019,127	1,928,574
Gross ton miles, excl. of locomotive & tender Thous.	10,840,066	9,866,915	5,589,486	4,785,374	4,345,663	4,213,873
No. of revenue passengers carried	2,455,293	2,627,541*	1,389,218	1,424,856*	879,729	973,709
No. of revenue passengers carried one mile Thous.	269,408	306 849*	130,494	147,989*	120,325	138,341
Freight train miles	6,543,802	6,048,420	3,340,982	2,877,335	2,674,377	2,661,964
Passenger train miles	3,745,669	3,778,759	1,808 417	1,828,796	1,699,379	1,694,289
Total train miles (rev. and non rev.)	10,600,823	10,137,470	5,348,912	4,880,682	4,457,469	4,464,133
Freight car miles—loaded	180,113 616	158,033,474	96,645,935	78,742,958	69,346,375	65,794,561
Freight car miles—empty	72,203,064	68 443.186	37,877,803	30.240,131	27.663,215	30,581,722
Passenger train car miles	34,335.328	35,055.376	16.823 087	17.085.865	15 275,842	15.458,325
Total amount of payroll	‡$42,251,965	$42,412.571*	‡$23,735,651	$23,097,153*	$16,036,890	$16,599,248
Number of employees	181,889	184 897*	102.721	102 810*	68.577	71,416
Payroll chargeable to ry. operating expenses	$39,355,048	$39,389,581*	$21,842,674	$21,047,656*	$15,035,726	$15,721,618
Daily Averages per Mile of Road Operated:—						
Operating revenue	$62.52	‡$54.93	$62.00	‡$52.73	$63.31	$56.80
Operating expenses	$53.96	$52.84	$53.95	$52.30	$55.17	$54.46
No. of tons moved one mile (Rev. Fr.)	3.426	3,079	3,361	2,880	3.580	3,372
No. of tons moved one mile (All Fr.)	3,794	3,444	3,767	3,261	3,955	3,774
No. of revenue passengers carried one mile	208	237	194	220	236	271
Averages per Freight Train Mile:—						
Freight revenue	$9.84	$8 99	$9.85	$9.26	$9.58	$8.39
No. of tons of freight (Rev. Fr.)	679	660	676	673	683	647
No. of tons of freight (All Fr.)	752	738	758	762	755	724
Gross ton miles	1,657	1.631	1,673	1.663	1 625	1,583
Loaded freight cars	27.5	26.1	28.9	27.4	25 9	24.7
Empty freight cars	11.0	11.3	11.3	10.5	10.3	11.5
Averages per Passenger Train Mile:—						
Passenger train revenues	$3.34	$3.48	†$3.73	†$3.76	$3.02	$3.38
Passengers carried	72	81	72	81	71	82
Passenger cars	9.2	9.3	9.3	9.3	9.0	9.1
General Statistics:—						
Average operating expenses per train mile	$6 60	$6.76	$6.78	$7.20	$6 32	$6.23
Average length of haul (Rev. Fr.) Miles	334	323	390	374	400	398
Average passenger journey Miles	110	117	94	104	137	142
Average tons per loaded freight car mile	27.3	28 3	26.2	27 8	29.1	29.3
Average freight receipt per revenue ton mile	1.450c	1 362c	1.456c	1.376c	1.402c	1.397c
Average passenger receipt per passenger per mile	2.736c	2 680c	2.753c	2 610c	2 791c	2.801c
Ratio of operating payroll to operating revenues	48 6%	55 4%	52 4%	59 4%	46.5%	54 1%
Ratio of operating expenses to revenues	86.34%	96.37%	87.02%	99.20%	87.16%	95.74%

‡Includes $38.345 Backtime.
*Includes statistics for Newfoundland District.
†Includes gross express revenue.
‡Revised to include Newfoundland.
§Includes duplications.
The above figures relate to those railways with annual operating revenues of $500 000 or over.
C.N.R. figures include only C.N.R. lines in Canada and do not include Hudson Bay Ry.
C.P.R. lines include all subsidiary lines in Canada.

Passenger and freight train miles contain a proportion of mixed train miles, divided on the basis of freight and passenger car miles in mixed train service. Total train miles include freight and passenger with their proportion of mixed train miles, special train and non-revenue train miles. The average freight revenue per freight train mile includes only rail line revenue. Average train revenue per passenger train mile includes revenue from passengers, mail, express, baggage, parlor cars, etc.

New High Record Gross for June

A new peak for Canadian railway operating revenues in June was established in that month this year, when gross reached $81,053,717, an increase of $9.947,399, or 14%, over the June, 1949, gross earnings. This large increase in operating revenues was due in part to a higher average freight rate, and in part to freight traffic increase. The extent to which the railway gross earnings have increased in Canada since the beginning of the present decade is shown by the fact that in June, 1940, the gross of the railways collectively was $36,913,-950; the total for June this year was 2.2 times that for June, 1940.

The freight traffic revenue for the railways collectively increased from $54.379,456 in June last year to $64,-418.726 in the month this year, or by 18.5%, the freight traffic revenue for the month this year having established a record for any June. The number of tons of revenue freight carried increased from 12,363,320 in June last year to 13,310,945 in the month this year, or by 7.7%, and, with an increase in the average freight haul from 323 miles to 334 miles, the revenue freight ton mileage was up in the month this year in the ratio 3,993:4,442, or by 11.2%. The average freight receipt per revenue ton mile increased from 1.362c in June, 1949, to 1.450c in the month this year.

The passenger traffic revenue for the railways collectively decreased from $8,224,775 in June last year to $7,370,242 in the month this year, or by 10.4%. The number of revenue

All Railways

Six Months Ended June 30,

	1950	1949	1948	1947
Operating Revenues	$441,004,508	$423,269,912	$396,858,283	$371,791,354
Operating Expenses	407,349,295	409,502,877	373,833,213	334,997,440
Net Operating Revenue	33,655,213	13,767,035	25,025,070	36,793,914
Operating Income	18,515,927	*1,401,527	7,021,756	16,973,765

*Deficit.

The above figures apply to all Canadian railways with annual operating revenue of $500,000 or over; those of the C.N.R. United States lines are not included.

Canadian Pacific Railway

(Including Canadian Subsidiaries)

	Gross Earnings 1950	Gross Earnings 1949	Working Expenses 1950	Working Expenses 1949	‡Net Earnings 1950	‡Net Earnings 1949	Increase
January	$24,544,458	$27,767,495	$26,488,163	$28,068,619	*$1,943,705	*$301,124	†$1,642,581
February	26,403,293	26,899,834	26,360,682	27,093,984	42,611	* 194,150	236,761
March	32,229,816	30,890,969	28,965,680	30,077,045	3,264,136	813,924	2,450,212
April	29,782,941	30,136,788	27,843,187	28,832,033	1,939,754	1,304,755	643,999
May	32,022,334	30,471,803	29,616,303	29,617,698	2,406,029	854,105	1,551,924
June	32,322,644	29,068,906	28,883,220	28,557,873	3,439,424	511,033	2,928,391
July	33,176 525	29,251,121	29,334,418	27,549,828	3,842,107	1,701,293	2,140 814
August	25,719,567	30,875,730	23.025,167	29,277,957	2,694,400	1,597,773	1,096,627
Totals	$236,201,578	$235,362,646	$220,516,822	$229,075,037	$15,684,756	$6,287,609	$9,397,147

*Deficit. †Decrease. ‡After hire of equipment, joint facility rents and taxes.

C.P.R. U.S. Subsidiaries

August:—	Minneapolis, St. Paul and Sault Ste. Marie Rd. 1950	Minneapolis, St. Paul and Sault Ste. Marie Rd. 1949	Wisconsin Central Ry. 1950	Wisconsin Central Ry. 1949
Railway operating revenues	$3,727,610	$3,725,730	$2.972,384	$2,347,333
Railway operating expenses	2,870,040	2 688,485	1,789,277	1,831,734
Net revenue from railway operations	857 570	1,037,245	1,183,107	515,599
Railway operating income	612,012	595,462	740,293	366,226
Net railway operating income	604,358	523,432	594,631	267,636
Eight Months to August 31:—				
Railway operating revenues	$22,475,452	$22,702,861	$18,820,556	$17,946.034
Railway operating expenses	20,440,895	19.637,630	13 839,490	14,259,330
Net revenue from railway operations	2,034,557	3,065.231	4 981,066	3,686,704
Railway operating income	334 122	1,235 974	3,403,348	2,529,429
Net railway operating income	120,795	873,268	2,229,451	1,539,580

Canadian National Railways

	Operating Revenues 1950	Operating Revenues 1949	Operating Expenses 1950	Operating Expenses 1949	Net Revenue 1950	Net Revenue 1949	Increase
January	$35,041,000	$37,309,000	$37,605,000	$38,797,000	*$2,564,000	*1,488,000	†$1,076,000
February	36.765,000	36,901,000	38,122.000	39.398,000	*1,357,000	*1,497,000	140.000
March	44,865,000	41.436,000	41.796,000	40.591.000	3,069,000	845.000	2.224.000
April	43,978 000	40,355.000	39,522,000	38,748,000	4,456,000	1,607.000	2 849.000
May	47 534.000	40.184,000	41.197,000	39.597,000	6 337,000	597.000	5.740 000
June	47,770.000	40,589.000	41,217.000	39.703,000	6,553,000	886.000	5,667 000
July	50,358,000	41.405.000	44.057,000	41,009.000	6,301.000	396,000	5.905 000
August	38.151.000	42,623.000	34,871,000	41,574,000	3,280,000	1,049.000	2 231,000
Totals	$344,462,000	$320,802,000	$318,387,000	$318,407,000	$26,075,000	$2,395,000	$23,680,000

*Deficit. †Decrease.

Central Vermont Railway (C.N.R. Subsidiary)

	August, 1950	August, 1949	Eight Months to Aug. 31, 1950	Eight Months to Aug. 31, 1949
Railway operating revenues	$882.000 00	$838 000.00	$6,842,000.00	$6,372,000.00
Railway operating expenses	686 572.21	681.441.45	5 633 363.11	5,471,859.58
Net revenue from railway operations	195.427.79	156 558 55	1,208,636.89	900.140.42
Net railway operating income	95 577 92	83,774 02	386,745 16	180.590.63
Net income available for interest	79,104.33	59,590.12	269,461.78	*12,067.34

*Deficit.

Combined Figures of C.N.R. Canadian and U.S.A. Lines

	June, 1950	June, 1949
Operating Revenues:		
Canadian Lines	$41,682,600	$35,449.000
United States Lines	6,087,400	5,140,000
Total	47,770,000	40,589,000
Operating Expenses:		
Canadian Lines	36,270,538	35,164.289
United States Lines	4,946,462	4,538.711
Total	41,217,000	39,703,000
Net Operating Revenue:		
Canadian Lines	5.412.062	284.711
United States Lines	1,140,938	601.289
Total	6,553,000	886,000
Operating Income:		
Canadian Lines	4,448.273	* 656 403
United States Lines	421.101	55.180
Total	4.869,374	* 601.223
	Six Months Ended June 30, 1950	Six Months Ended June 30, 1949
Operating Revenues:		
Canadian Lines	221,175.500	205,860,300
United States Lines	34,777,500	30,913,700
Total	255,953,000	236,774,000
Operating Expenses:		
Canadian Lines	211,602.653	208,752.083
United States Lines	27,856,347	27,071,917
Total	239,459,000	235,824,000
Net Operating Revenue:		
Canadian Lines	9 572,847	*2,891,783
United States Lines	6,921,153	3,841,783
Total	16,494,000	950,000
Operating Income:		
Canadian Lines	4,626.219	*7,648,790
United States Lines	2,954,384	634.675
Total	7,580,603	*7,014,115

*Deficit.

passengers carried decreased from 2,627,541 in the 1949 month to 2,455,-293, or by 6.6%, and, with a decrease of from 117 miles to 110 miles in the average passenger journey, revenue passenger mileage decreased in the ratio 3,068:2,694, or by 12.2%. The average receipt per passenger mile increased slightly, viz., from 2.680c in June last year to 2.736c. Mail revenue for the railways collectively increased moderately, viz., from $742,-400 in the 1949 month to $763,422, or by 2.8%, and express revenue was up from $3,107,653 in the 1949 month to $3,303,299, or by 6.3%. "Other passenger train" revenue increased slightly, while water line revenue decreased moderately. "All other" revenue was up from $3,166,989 in June last year to $3,722,183, or by 17.5%.

The total operating expenses for the railways as a whole were nearly a record for any June, at $69,983.559, reflecting an increase of $1,457,765, or 2.1%, over those of June, 1949. The outlay for maintenance of way and structures increased from $14.809,732 in June last year to $16,112,855, or by 6.8%, but that for maintenance of equipment decreased from $15,757,375 to $15.677,318. Traffic expenses were up moderately, and transportation expenses increased from $31,522,652 in June, 1949, to $31,891,009 in the month this year, or by 1.2%. Expenses of miscellaneous operations increased moderately, but general expenses were reduced from $3.717,812 in the 1949 month to $3,531,258, or by 5%.

With total operating revenues in June this year increased over those of the 1949 month to a much greater extent than total operating expenses were increased, the net operating revenue for the railways collectively was up from $2,580,524 in June, 1949, to $11,070,158 in the month this year, or by $8,489,634, while the operating ratio came down from 96 37% in the 1949 month to 86.34%. Tax accruals were up from $1.299,260 in the 1949 month to $1,591,156, and there was a moderate increase in the joint facilities rents debit in June this year, but the hire of equipment debit was reduced by over $11,300. The result was that the operating income for the railways collectively increased in large measure, viz., from $92,623 to $8,372,-315.

Reflecting the increase of 7.7% in revenue freight tonnage handled in June this year, and that of 11.2% in the revenue freight ton mileage, the number of freight train miles operated increased from 6,048,420 in June last year to 6,543 802 in the month this year, while loaded freight car miles were up from 158,033,474 to 180,113,-616, and empty freight car miles from 68,443,186 to 72,203,064. The average number of tons of revenue freight per freight train increased from 660 in the 1949 month to 679, the increase as concerns all freight having been from 738 tons to 752 tons, and gross ton mileage per freight train mile was

up from 1,631 to 1,657. Due to the increased revenue freight tonnage per train and to the better average freight rate applying in June this year, earnings per freight train mile were up from $8.99 in June last year to $9.84 in the month this year. The higher average revenue freight tonnage per train was secured despite a decrease of from 28.3 to 27.3 tons in the average car loading, and was brought about by an increase of from 26.1 to 27.5 in the average number of loads per train.

With a decrease of from 184,897 to 181,889 in the number of employees, the payroll for the railways collectively decreased by 0.38% in June this year, and the payroll chargeable to railway operating expenses decreased slightly also. In June this year, the operating payroll required 48.6% of total operating revenues, compared with 55.4% required to meet the June, 1949, operating payroll.

The heavier freight traffic in June this year than in the month last year, and the increase in the average freight rate, are reflected n the figures recording the daily averages per mile of road operated. The revenue freight ton mileage per mile of road per day was up from 3,079 in June last year to 3,426 in the month this year, while the increase in the ton mileage of all freight, per mile of road per day, was from 3,444 to 3,794. Revenue passenger mileage per mile of road per day declined from 237 in the 1949 month to 208, but, with the increase in freight traffic far outweighing the decrease in passenger traffic, operating revenue per mile of road per day increased from $54.83 in June last year to $62.52 in the month this year. Operating expenses increased also, but much more moderately, the outlay per mile of road per day having been up from $52.84 in June last year to $53.98 in the month this year.

Reflecting the decline in number of revenue passengers carried and revenue passenger mileage, average number of passengers per train decreased from 81 in June, 1949, to 72 in the month this year, while revenue per passenger train mile was off from $3.42 to $3.34.

A slight reduction in the average operating expense per train mile was effected in June this year, compared with that in the month last year, viz., from $6.76 to $6.60.

The C.N.R. figures which appear in the large table at the beginning of this review are not for the whole system, but are for Canadian lines only; they do not cover the operations of the Duluth, Winnipeg and Pacific Ry., the Grand Trunk Western Rd., the Central Vermont Ry. and C.N.R. lines in New England, and neither do they cover the operations of the Hudson Bay Ry., which is owned by the Government of Canada and operated by the C.N.R. as agent. The C.N.R. figures in smaller tables accompanying this review are for the whole system.

Transcontinental Railways in July

The operating revenues, operating expenses and net earnings secured by the Canadian National and Canadian Pacific in July were recorded in tables on pg. 541 of our October issue. On the Canadian National (whole system), gross earnings were up in large measure, and to a much greater extent than operating expenses, with the result that net revenue increased from $396,000 in July, 1949, to $6,301,000, or by $5,905,000. In the first seven months of this year, C.N.R. system net was $22,795,000, compared with $1,346,000 in the first seven months of 1949, the betterment thus having been $21,449,000.

The Canadian Pacific also had a much better month in July this year than in 1949, gross earnings having increased to a much greater extent than operating expenses, with the result that net earnings increased from $1,701,293 in July, 1949, to $3,842,107 in July this year, or by $2,140,814. In the first seven months of this year, C.P.R. net was $12,990,356, compared with $4,689,836 in the first seven months of 1949, a betterment of $8,300,520.

Transcontinental Railways in August

August in this year, also, was a better month for the two transcontinental railways than was August last year. On the Canadian National, whole system, operating revenues were decreased by $4,472,000 from those of August, 1949, due to the strike of non-operating employees in August this year, but operating expenses were reduced by $6,703,000, with the result that the net earnings for the month this year, viz., $3,280,000, exceeded those for the month in 1949 by $2,231,000.

In the first eight months of this year, C.N.R. whole system net was $26,075.000, or $23,680,000 more than in the first eight months of 1949. In the period this year, gross earnings were up $23,660,000, while operating expenses were reduced by $20,000.

On the Canadian Pacific, gross in August this year was $5,156,163 below that earned in August last year, but operating expenses were reduced by $6,252,790, with the result that the net earnings in the month this year, viz., $2,694,400, exceeded those for August, 1949, by $1,096,627.

In the first eight months of this year, C.P.R. gross was $838,932 greater than in the same part of last year, while operating expenses were decreased by $8,558,215, with the result that the net earnings in the first eight months of this year, viz., $15,684,765, exceeded those for the period last year by $9,397,147.

C.N.R. Canadian and U.S. Lines

In June, C.N.R. system net operating revenue was $6,553,000, to which the Canadian lines contributed $5,412,062 and the United States lines, $1,140,938. This represented a vast improvement over June, 1949, when the Canadian lines had net operating revenue of $284,711 and the U.S. lines $601,289, making system net of $886,000.

In the first six months of this year, C.N.R. system net was $16,494,000, derived $9,572,847 from Canadian lines and $6,921,153 from U.S. lines. In the first half of 1949, the Canadian lines had an operating deficit of $2,891,783, while the U.S. lines had net operating revenue of $3,841,783, producing system net revenue of $950,000.

Great Canadian Publisher Passes

On September 25, Lt.-Col. John Bayne Maclean, founder and Chairman of the Board, MacLean-Hunter Publishing Co., Ltd., died, and his death marked the passing of one who not only achieved the creation of an outstanding publishing business from small beginnings, but of one who held the respect and affection of thousands of people, in Canada, the United States, Britain and Western Europe. The late Lt.-Col. Maclean was born September 26, 1862, in the Presbyterian Manse at Crieff, Ont., the first of two sons of Reverend Andrew Maclean. Thus, he died one week before his 88th birthday. Following early experience in newspaper work in Toronto, he began publishing on his own account, with the "Canadian Grocer". His brother, Hugh Clement Maclean, four years his junior, became associated with him while his enterprise was still young, and stayed with him until 1898, when he left to establish his own important and successful group of publications. Lt.-Col. Maclean then hired H. Victor Tyrrell, who later became Vice President, and then Horace T. Hunter, who is to-day President, and it was this team of Maclean, Hunter and Tyrrell that built Canada's greatest periodical publishing house.



Lt.-Col. John Bayne Maclean, who was founder and Chairman of the Board, Maclean-Hunter Publishing Co., Ltd., and who died September 25, only one day before his 88th birthday.

As the business grew, more and more periodicals were published, and at the time of Lt-Col. Maclean's death, the company was producing four national magazines, 29 business and technical newspapers and a number of auxiliary publications. In the United States, a subsidiary publishes four important business journals, and another publication is produced in Great Britain. The business has been a profitable one, but the making of money was not Lt.-Col. Maclean's main goal. His aim was to give service, and to promote national unity and development. Lt.-Col. Maclean was never identified with the effort to keep United States periodicals out of Canada. He favored the circulation of U.S. publications in this country; while admitting that they competed with his own publications, his view was that they were helping Canadians to be better business men, and his reasoning was that in the long run this would be greatly to his advantage. In building up his publishing firm from its humble start, Lt.-Col. Maclean was canny about financing. He ploughed back his profits into the business, rather than floating stock or bond issues. This gave a better sense of control. His outstanding success in his business enterprise made Lt.-Col. Maclean a firm believer in two things, viz., the free enterprise system and Canada's opportunities for youth.

An outstanding tribute to Lt.-Col. Maclean was paid by the present President of the Maclean-Hunter Publishing Co., Mr. Hunter, who, writing in the Maclean-Hunter Newsweekly, stated:—"The business of publishing is words. But words are an inadequate medium for the expression of the feeling of all of us over the passing from our midst of the Founder of Maclean-Hunter, Col. John Bayne Maclean.

"There are some of us who were associated with him for more than 40 years; a hundred or more for 25 years. But upon every man and woman who has served this company he has left an imprint of kindliness and affection.

"Upon this business, erected on certain ideals of good citizenship, Col. Maclean leaves an imprint that will never be effaced.

"For my own part, it is difficult at this time of severance of so long and so privileged a partnership to express what is within me.

"We have said farewell to a great publisher, a great Canadian and a great friend."

G. H. Lash Heads C.N.R. Public Relations

Following retirement of W. S. Thompson, C.B.E., from the position of Director of Public Relations, Canadian National Rys., G. Herbert Lash has been appointed to succeed him, with Claude Melancon and Royd E. Beamish as assistant directors of public relations.

The retirement of Walter Scott Thompson, C.B.E., from the position of director of Public Relations, Canadian National Rys. and subsidiary and associated enterprises, was dealt with in our October issue, pg. 543, where his outstanding career in journalistic and public relations work was reviewed. On October 3, the Canadian National Rys. Chairman and President, Donald Gordon, C.M.G., announced the appointment of G. Herbert Lash, previously Assistant Director of Public Relations, as Director of Public Relations, to succeed Mr. Thompson, with Claude Melancon and Royd E. Beamish as assistant directors of public relations. Mr. Gordon's announcement said:—"Mr. W. S. Thompson, C.B.E., Director of Public Relations, will retire under the company's pension rules on October 22, 1950, after more than thirty-six years of distinguished service to the national system and to Canada.

"On October 23, Mr. G. H. Lash, now Assistant Director, will become Director of Public Relations.

"Mr. Claude Melancon will continue to perform the duties of Assistant Director of Public Relations. Mr. Royd E. Beamish has been appointed Assistant Director to fill the vacancy resulting from Mr. Lash's promotion."

The new Director of Public Relations, Mr. Lash, has been associated with Mr. Thompson for nearly 30 years. He was born at St. John's, Nfld., in 1894, and proceeded to Montreal in 1903, and to Galt, Ont., in 1905, having received his education in the schools at Galt and at St. Andrew's College, Toronto. He began his journalistic career with the Mail and Empire in Toronto in 1912, but after the outbreak of the first world war he enlisted in the Princess Patricia's Canadian Light Infantry, as a private, and went overseas in 1915. He gained his lieutenant's commission on the field at Courcellette, where he was wounded on September 15, 1916. Put on the General List of Officers, he volunteered for service with the 47th Battalion of British Columbia, with which he remained until the end of hostilities. He won the Military Cross and Bar, and was also mentioned in dispatches. Returning to Canada in 1919, he resumed his newspaper work with the Mail and Empire, and when that publication acquired the Sunday World, was appointed Managing Editor.

Mr. Lash joined the C.N.R. as Publicity Representative at Montreal in



G. Herbert Lash,
Director of Public Relations, C.N.R.



Royd E. Beamish,
Assistant Director of Public Relations, C.N.R.



Claude Melancon,
Assistant Director of Public Relations, C.N.R

June, 1923. He transferred to Winnipeg in a similar capacity in May, 1926, and remained in Western Canada until June, 1930, at which time he was appointed Press Representative in New York. In November, 1938, he returned to Montreal as assistant to Mr. Thompson.

As assistant to the chairman of the press arrangements committee of the Royal Tour early in 1939, Mr. Lash did "a man's job," and later that year of the outbreak of war was appointed executive assistant to the chairman of the censorship co-ordinating committee.

In January, 1940, the government invited Mr. Lash to become Director of Public Information for Canada, and he developed this branch of the country's war effort until September, 1942, when he returned to his railway work.

In 1921 Mr. Lash married Jeannie Irving Drummond, daughter of the late J. N. and Mrs. Drummond of Montreal. They have one son, Harry N., who, following service overseas as a lieutenant with the West Nova Scotia Regiment in World War II, and seeing action in Italy, Belgium and Holland, obtained his M.A. from McGill, where he has since been engaged as a lecturer in Geography.

Claude Melancon was born in Montreal in 1895, and was educated at Saint-Mary College, Montreal, and the Brockville Business College. He joined La Presse as a reporter in 1918, and the following year was made parliamentary correspondent for that newspaper at Ottawa. As a journalist and feature writer he has visited every province of Canada, the United Kingdom, France, Belgium, Germany, Czecho-Slovakia, Austria, North Africa, Sicily, Italy, Holland, Switzerland and South America. He joined the C.N.R. at Montreal in 1923 as Publicity Representative, and in 1932 was made Chief of French Services. In September, 1939, he moved to Ottawa as joint press censor for Canada, and in January, 1940, was named Associate Director of Public Information. He returned to the railway in 1942, and in 1944 was appointed Assistant Director of Public Relations.

Mr. Melancon was made an officer of the Academy by the Government of France in 1930. He is the author of a number of books dealing with the tourist attractions, the flora and fauna of Quebec, and was awarded "Le Prix David" by the provincial government for his "Nos Animaux chez Eux." He is a member of the Royal Society of Canada, the Montreal Society of Natural History, the French Canadian Authors' Society, the Montreal Men's Press Club, and a life member of the Zoological Society of Quebec. He is a past President of the Society for the Protection of Fish and Game of the Province of Quebec.

Royd Ellis Beamish was born in Port Arthur in 1911. He was educated in schools there, and studied commerce and finance at Queen's University in 1929-30. He joined the Port Arthur News Chronicle in 1930, where he served as sports editor, reporter and feature writer, and assistant news editor. In 1938 he went to the Toronto Globe and Mail as a reporter covering the Ontario Legislature. Two years later he became parliamentary correspondent for that paper at Ottawa. In 1940 he joined the army as adjutant of a Port Arthur company of the Canadian Forestry Corps. While overseas in 1942 he transferred to the Lake Superior Regiment, and the same year was appointed public relations officer at First Canadian Army Headquarters. In 1943 he was made Deputy Assistant Director of Public Relations with the rank of Major. He served in North Africa, Sicily and Italy, and on returning to Canada in 1944 wrote a series of stories for the Canadian Army newspaper, The Maple Leaf.

On receiving his discharge in 1945, Mr. Beamish joined the Financial Post and became Assistant Editor in 1946. In 1947 he was named to the editorial board of the Globe and Mail, and the following year was appointed press liaison officer of the Bank of Canada.



One of the Steam Locomotives Built for Egyptian State Railways by Montreal Locomotives Works, Ltd.
The order for the Egyptian locomotives was one of the latest completed before the company ceased building steam locomotives and turned to Diesel-electric locomotive construction. It continues to manufacture steam locomotive parts, however.

Steam Locomotives for Egypt

Among the steam locomotives built by Montreal Locomotive Works, Ltd., for export, before the company discontinued building of complete steam locomotives, was an order for Egyptian State Railways, final deliveries of which were made in 1948. An illustration of one of these locomotives appears herewith, and following are the chief particulars. The locomotives are standard gauge, and have cylinders 21 in. diameter and 28 in. stroke, with driving wheel diameter of 72 in. Boiler inside diameter is 66 in., and steam pressure of 225 lb. per sq. in. is carried. The firebox is 120 ⅛ in. long by 39¼ in. wide. There are 32 5⅜ flues and 148 2 in. tubes, distance between tube sheets being 14 ft. Driving wheelbase is 15 ft., locomotive wheelbase, 27 ft. 6 in., and wheelbase of locomotive and tender 61 ft. 7⅜ in. Weight in working order on the four-wheel leading truck is 51,500 lb., and on driving wheels 145,500 lb., making total engine weight of 197,000 lb. Weight of tender in working order is 138,000 lb. The locomotives are fitted for oil burning and have a total of 1,933 sq. ft. of evaporating surface, viz., tubes, 1,079 sq. ft.; flues, 626 sq. ft.; firebox, 200 sq. ft.; syphons, 28 sq. ft. The superheating surface is 446 sq. ft. Grate area is 32.8 sq. ft. Maximum tractive power is 32,800 lb., and factor of adhesion is 4.43. The tender provides capacity for 5,500 Imperial gall. of water and 2,700 U.S. gall. of fuel oil.

Railway Accidents

In August, according to the report of the Operating Department of the Board of Transport Commissioners for Canada, there were 205 accidents on Canadian railways, with 12 persons killed and 217 injured, and 21 accidents at level crossings, with 9 persons killed and 42 injured, a total of 226 accidents, with 21 persons killed and 259 injured.

The level crossing accidents, by provinces, were:—

Quebec	2
Ontario	15
Manitoba	1
Alberta	3
	21

Automobiles were involved in 11 accidents, auto trucks in four, pedestrians in three, motorcycles in two and a fire truck in one. Chief causes were driving into side of trains and driving onto crossings in front of approaching trains. Sixteen accidents occurred at unprotected crossings and five at protected crossings, and thirteen occurred after sunrise and eight after sunset.

Montreal-Built Diesel-Electric Locomotives

Montreal Locomotive Works, Ltd., pioneer builder of Diesel-electric locomotives in Canada and a Canadian industry which will be celebrating its fiftieth anniversary in 1951, is now engaged in the construction of five types of Diesel-electric locomotives, viz., 660 h.p. switchers, 1,000 h.p. switchers, 1,000 h.p. road switchers, 1,600 h.p. road switchers and 1,600 h.p. road freight locomotives, both "A" and "B" units of the last designated type being turned out. Also, the company stands ready to produce even more powerful Diesel-electric locomotives than any turned out to date, and the two Canadian companies cooperating with it in Diesel-electric locomotive production, viz., Canadian General Electric Co., Ltd., which builds the electrical equipment, and Dominion Engineering Works, Ltd., which builds the Diesel engines, are likewise in a position to supply any required equipment. In this connection, attention is directed to a statement by Frederick Carson, Executive Vice President, Montreal Locomotive Works, Ltd., in regard to the two-unit, 4,000 h.p. locomotive which operated on C.N.R. lines in Canada from February to May this year, having been loaned by American Locomotive Co. for demonstration purposes. Sir Frederick said that this demonstrator was brought into Canada as a prototype of a locomotive which Montreal Locomotive Works, Ltd., along with Canadian General Electric Co., Ltd., and Dominion Engineering Works, Ltd., is prepared to build for Canadian railways. Sir Frederick said that the addition of the 2,000 h.p. passenger locomotive, (each unit of the demonstrator locomotive loaned by American Locomotive Co. develops 2,000 h.p.) would complete the line of MLW-GE road Diesel-electric locomotives being built in Canada, with a high Canadian content of materials.

Recent official advice is that the new models of the road passenger locomotive would be even more powerful than the one loaned to the C.N.R. by American Locomotive Co. After nearly four years of research, the Canadian General Electric traction motors and generator have been improved to the point where they now develop more than 20% more continuous tractive effort with the same gearing. This improvement will apply in future to all MLW-GE road locomotives, including the new 1,600 h.p. road switchers.

The change-over at the Montreal Locomotive Works, Ltd., plant from steam locomotive production to the building of Diesel-electric locomotives began more than three years ago, it having been realized that the Diesel-electric locomotive was about to begin the process of revolutionizing American railroading. Beginning right after the war, the United States railways were placing orders for many more Diesel-electric locomotives than for steam locomotives, and the situation during the past couple of years has been that more than 96% of the locomotive orders placed by U.S. railways have been for Diesel-electric units. The progress of the Diesel-electric locomotive in railroading on this continent has been outstanding. The first successful locomotive of this type was built by American Locomotive Co., the parent company of Montreal Locomotive Works, Ltd., in 1924, and this unit is still in daily service on the Central Railroad of New Jersey. In the '30's, successful Diesel-electric locomotives for passenger service were introduced, and just before the second world war, the U.S. railways were beginning to place orders for Diesel-electric locomotives for freight service. Early in 1947, the Montreal Locomotive Works, Ltd., management decided to convert a part of the company's facilities to Diesel-electric locomotive production, and, as recorded in these columns at the time, an agreement was made with Canadian General Electric Co., Ltd., providing for the production by that company of the generators, traction motors and other electrical equipment for the Diesel-electric locomotives to be built by Montreal Locomotive Works, Ltd. Later, as also recorded in a past issue, an agreement was entered into with Dominion Engineering Works, Ltd., for the production of Diesel engines for the switching, road switching and road freight locomotives. To the end of last year, the three companies had an aggregate investment of about $15 million in facilities for the building of Diesel-electric locomotives in Canada. As recorded in these columns at the time, the first Diesel-electric locomotive produced in Canada, a switcher for the Canadian Pacific Ry., was turned out in Montreal in the spring of 1948, and was exhibited at the first Canadian International Trade Fair, in Toronto, before delivery to the C.P.R. The first road switcher was turned out early in December, 1948. The building of road freight Diesel-electric locomotives then followed, and orders were received from the Canadian Pacific for 40 of these (20 "A" units and 20 "B" units) and from the Cana-



One of the MLW-GE 1,600 H.P. Diesel-electric Road Switchers.



1,600 H.P. Diesel-electric Road Freight Locomotives Built by Montreal Locomotive Works, Ltd., for the Canadian Pacific and Canadian National.

dian National for eight (all "A" units). The eight road locomotives for the C.N.R. were delivered in the early part of this year, and deliveries on the C.P.R. order for 40 units have been proceeding for some time.

No More Steam Locomotives, But Parts Being Supplied

Recent official advice is that Montreal Locomotive Works, Ltd., is no longer building steam locomotives. However, the company continues to turn out parts for existing steam locomotives, and no doubt will continue to do so as long as such parts are required.

In the recent past, the company has built and delivered steam locomotives for a number of customers in foreign countries, in addition to the many built for the Indian State Railways. Locomotives were built for France, Rhodesia, Egypt and Nigeria, the final deliveries on the order for France having been made March 31, 1947, and on the order for Rhodesia, October 23, 1947; on the order for Egypt, February 28, 1948, and on the order for Nigeria, March 26, 1949. We hope to provide brief descriptions of the four types of locomotives involved in these export orders, in this and early future issues.

Railway Freight Traffic

May Traffic

In May, according to figures provided by the Public Finance and Transportation Division of the Dominion Bureau of Statistics, revenue freight loaded on Canadian railways and received by them from foreign connections was as follows, with comparative figures given also for May in 1949 and 1948:—

Province	May, 1950 Tons	May, 1949 Tons	May, 1948 Tons
Newfoundland	58,765	67,528	
Prince Edw. Is.	58,458	43,505	42,103
Nova Scotia	1,013,585	*901,021	940,931
New Brunsw'k	377,202	342,451	404,765
Quebec	2,315,236	2,146,667	2,546,757
Ontario	5,500,442	5,302,179	5,647,844
Manitoba	478,196	552,316	462,600
Saskatchewan	745 892	665,611	505,598
Alberta	1,060,544	1,014,905	851,734
Brit. Columbia	1,004,401	862,360	836,873
Total for Can.	12,612,721	*11,898,543	12,239,205

The products handled in May in the three years were as follows, in tons:—

Agricultural	2,128,042	*2,247,766	1,762,073
Animal	176,633	* 187,997	207,819
Mine	4,950,023	*4,332,784	4,740,890
Forest	1,115,664	*1,136,494	1,383,319
Mfrs. and Misc.	4.242.359	*3,993,502	4,145,104
Grand Total	12,612,721	*11,898,543	12,239,205

*Revised.

The tonnage handled in May this year represented an increase of 714,178 tons or 6% over that handled in May last year, this gain having been recorded despite the disastrous floods in Southern Manitoba, which brought embargoes and serious interruptions to freight loadings and the normal movement through Winnipeg. Freight loaded at Canadian stations in May this year was 9,603,529 tons, compared with 8,982,204 tons in the month last year, a gain of nearly 7%. Freight from foreign points for Canadian destinations decreased from 1,702,851 tons in May last year to 1,588,645 tons, but in-transit traffic, due largely to gains in the movement in grain, automobiles and other manufactured goods, increased from 1,213,488 tons in May last year to 1,420,547 tons in the month this year. Canadian freight loadings increased in May this year in the animal and animal products group, in the mine products group and in the manufactures and miscellaneous group, while reductions were recorded in the agricultural products group and in the forest products group. The bituminous coal loaded



Horace C. Grout,
who retired from the Soo Line presidency at the end of 1949, and who died in Montreal, October 10, aged 69.

increased from 701,431 tons in May last year to 832,359 tons, while the iron ore loadings more than doubled, having increased from 176,033 tons in May, 1949, to 361,312 tons. Crude petroleum increased from 133,776 tons in the month last year to 159,331 tons. The loading of pulpwood declined from 393,664 tons in May last year to 288,683 tons, but the lumber handled increased from 454,875 tons in the 1949 month to 542,154 tons.

Horace C. Grout Dead

Horace C. Grout, who retired from the presidency of the Minneapolis, St. Paul and Sault St. Marie Rd. at the end of last year, remaining as a member of the directorate and of the executive committee, died in hospital in Montreal, October 10, aged 69. His retirement from the Soo Line presidency marked the culmination of nearly 52 years of distinguished active service with the Canadian Pacific and the Soo Line. Mr. Grout was born at Wausau, Wis., in 1881, and was educated at Northwestern Military Academy and the University of Wisconsin. He entered Canadian Pacific Ry. service as a rodman in British Columbia in 1898, and following appointments in railway service were:— April, 1908, Resident Engineer, Toronto; April, 1907, Assistant Division Engineer, Toronto; April, 1908, Resident Engineer, Toronto; April, 1909, Assistant Superintendent, Toronto, and from January, 1910, at Havelock, Ont.; February, 1912, Superintendent, Toronto, and from July 1912, at Brownville Jct., Maine; November, 1912, Assistant General Superintendent, Atlantic Division, Saint John; May, 1913 Acting General Superintendent, Atlantic Division, Saint John; September, 1914, General Superintendent, Atlantic Division, Saint John, and from April 1920, of Ontario District, Toronto; October, 1934, Assistant to the Vice President, Montreal; May, 1942, General Manager, Western Lines, Winnipeg; April, 1944, Chief Executive Officer, Minneapolis, St. Paul and Sault Ste. Marie Rd. Co.; September, 1944, President, Minneapolis, St. Paul and Sault Ste. Marie Rd. Co.—During his tenure of office as President of the Soo Line, Mr. Grout completely re-organized that property, and during his long career with the C.P.R. he gained a reputation for his executive and operating ability. Surviving Mr. Grout are his wife, a daughter and two sons.

Higher Fares for Commuters

In an order issued near the end of September, the Board of Transport Commissioners for Canada authorized the railways to increase their rates for commuters' tickets by 20%. Also, the railways were ordered to issue books of tickets covering 40 trips under the same conditions and at rates 10% less than those applying on 50-trip ticket books. Many commuters had claimed, in proceedings before the Board, near the end of last year, when the effective date for rate increases proposed by the railways had been postponed, that the 50-trip book of tickets could not be wholly used in the month of its validity. In the judgment supporting the Board's order, it was found that while the increased rates proposed by the railways last fall would have been so high as to cause hardship to many people, the railway commuter service is carried on at a loss.

The railways affected are the Canadian National, Canadian Pacific, Dominion Atlantic, New York Central, Northern Alberta, Toronto, Hamilton and Buffalo, Montreal and Southern Counties, and Niagara, St. Catharines and Toronto.

C.V.R. 100th Anniversary

The 100th anniversary of the Central Vermont Ry. was fittingly celebrated at St. Albans, Vt., October 18, when the ceremonies were opened by the arrival of a little old wood-burning locomotive, the "Governor Smith". The largest type steam locomotive owned by the C.V.R., No. 601, was named "City of St. Albans" by the Mayor at a christening ceremony. Many C.V.R. and C.N.R. officials attended a civic luncheon at which Donald Gordon, C.N.R. Chairman and President, was guest speaker.

Name of Railway	Passenger Revenue	Freight and Switching Revenue	Other Earnings from Operation	Total Gross including other Earnings from Operation	Operating Expenses	Net Operating Revenues	Operating Ratio Per Cent.	Net Railway Operating Income	Total Non-Operating Income	Gross Corporate Income	Total Deductions from Income	Net Corporate Income
Algoma Central and Hudson Bay	$221,418	$6,415,513	$463,129	$7,100,060	$6,389,423	$710,637	$89.99	$724,670	$30,263	$754,933	$674,953	$79,980
Alma and Jonquieres	12,594	284,342	6,339	303,275	203,443	99,832	67.08	40,458	5,633	46,091		46,091
British Yukon	82,935	476,950	161,601	721,486	495,783	225,703	68.72	214,562	1,023	215,585	111,222	104,363
Canada and Gulf Terminal	69,435	294,052	3,581	367,068	252,046	115,022	68.66	87,052	4,139	91,191	40,367	50,824
Canada Southern (Lessee N.Y.C.)	5,224,241	22,767,790	365,859	28,357,890	19,688,271	8,669,619	69.43	3,927,781	33,317	3,961,098	1,959,516	2,001,582
Canadian National	69,278,567	335,428,984	17,837,432	422,544,983	408,021,042	14,523,941	96.56	5,064,024	9,853,505	14,917,529	48,734,468	Dr.33,816,939
Canadian Pacific	55,295,148	289,836,711	10,117,843	355,249,702	326,178,356	29,071,346	91.82	18,419,166	27,305,560	45,724,726	18,330,875	27,393,851
Central Vermont	4,869	5,420	1,077	11,366	87,864	Dr. 76,498	773.04	Dr. 79,059	115,607	36,548	36,548	
Chesapeake & Ohio (Pere Marquette Div.)	Dr. 162	11,485,207	23,698	11,508,743	5,732,005	5,776,738	49.81	2,899,905	15,023	2,914,928	264,120	2,650,808
Cumberland	2,600	208,253	6,205	217,058	285,016	Dr. 67,958	131.31	Dr. 77,974		Dr. 77,974		Dr. 77,974
Essex Terminal		542,937	34,933	577,870	434,445	143,425	75.18	75,632	18,032	93,664	13,800	79,864
Great Northern Railway	128,075	1,266,807	94,070	1,488,952	1,658,234	Dr. 169,282	111.37	Dr. 291,908	126,869	Dr. 165,039	163,734	Dr. 328,773
Greater Winnipeg Water District	9,459	107,189		116,648	147,247	Dr. 30,599	126.23	Dr. 33,338		Dr. 33,338		Dr. 33,338
Hudson Bay	173,837	924,000	79,693	1,177,530	1,320,246	Dr. 142,716	112.12	Dr. 402,213	146	Dr. 402,067		Dr. 402,067
Maine Central		27,882		27,882	26,799	1,083	96.12	949		949		949
Maritime Coal, Railway and Power Co.	3,252	109,510	12,540	125,302	99,991	25,311	79.80	934	4,589	5,523		5,523
Midland Railway of Manitoba	132,283	390,402	26,221	548,906	682,359	Dr. 133,453	124.31	Dr. 340,402	17,817	Dr. 322,585	9,300	Dr. 331,885
Morrissey, Fernie and Michel	7,200	72,613	206	80,019	66,991	13,028	83.72	10,111		10,111		10,111
Napierville Junction	452,804	894,626	1,791	1,349,221	856,026	493,195	63.45	193,512	20,101	213,613	5,432	208,181
Northern Alberta	1,147,306	5,734,937	154,390	7,036,633	6,284,883	751,750	89.32	Dr. 368,925	370,847	1,922	1,601	321
Ontario Northland	1,452,136	8,011,007	1,187,242	10,650,385	9,163,412	1,486,973	86.04	1,098,286	276	1,098,562	220,103	878,459
Ottawa and New York	33,006	167,281	20,391	220,678	431,476	Dr. 210,798	195.52	Dr. 274,539	6,829	Dr. 267,710	1,066	Dr. 268,776
Pacific Great Eastern	280,093	1,484,107	73,890	1,838,090	2,211,581	Dr. 373,491	120.32	Dr. 456,814	20,575	Dr. 436,239	4,463,950	Dr.4,900,189
Quebec Railway, Light and Power Co.	405,551	583,388	16,674	1,005,613	843,320	162,293	83.86	109,977	6,212	116,189		116,189
Roberval and Saguenay	9,514	2,470,216	25,170	2,504,900	1,000,377	1,504,523	39.94	993,229	2,906	996,135	93,201	902,934
St. Lawrence and Adirondack	184,543	873,336	33,947	1,091,826	1,341,916	Dr. 250,090	122.91	Dr. 540,908	486	Dr. 540,422	59,941	Dr. 600,363
Sydney and Louisburg	67,930	1,899,917	94,432	2,062,279	1,820,612	241,667	88.28	Dr. 144,011		Dr. 144,011		Dr. 144,011
Temiscouata	36,153	434,894	6,506	477,553	460,940	16,613	96.52	Dr. 8,696	8,539	Dr. 157		Dr. 157
Thousand Island	8,737	47,455	3,042	59,234	72,024	Dr. 12,790	112.59	Dr. 13,279	803	Dr. 12,476		Dr. 12,476
Toronto, Hamilton and Buffalo	530,667	4,253,291	79,465	4,863,423	2,920,319	1,943,104	60.05	1,252,541	52,116	1,304,657	61,066	1,243,591
Toronto Terminals			889,510	889,510	1,882,168	Dr. 992,658	211.60	Dr.1,250,510	2,613,708	1,363,198	1,363,198	
Wabash (in Canada)	57	11,246,081	12,067	11,258,205	7,067,840	4,190,365	62.78	2,363,770		2,363,770		2,363,770
Total	$135,254,248	$708,745,098	$31,832,944	$875,832,290	$808,832,290	$67,705,835	$92.27	$33,162,676	$42,728,059	$75,890,735	$78,071,240	Dr. $2,180,505
Canadian National (Canada and U.S.)	73,915,643	398,478,830	18,875,477	491,269,950	464,739,970	26,529,980	94.60	10,175,630	5,270,536	15,446,166	49,284,962	Dr.33,838,796

Included in the income figures for Canada Southern (lessor) are: Net railway operating income deficit, $31,307; total non-operating income, $2,093,138; gross corporate income, $2,061,831; total deductions from income, $1,462,779; net corporate income, $599,052. The Maritime Coal, Railway and Power Co. net corporate income is from all divisions of the company.

Gross Earnings at High Point, but A Net Corporate Loss Resulted

The results secured by the Canadian Railways in 1948 were reviewed in our issue of February last, on the strength of a preliminary report issued by the Transportation Division of the Dominion Bureau of Statistics. The final railway statistics for the year, issued by the Division, show little change in the results secured by the railways. Gross earnings for the year established a new high record at $875,832,290, representing an increase of $90,654,370, or 11.5%, over the 1947 gross earnings, and an increase of about $79,196,000, or 9.9%, above the previous record established in 1944. The gross earned in 1948 was 2.4 times that earned in 1939 and 2.6 times that earned in 1938, representing a remarkable growth within a decade. The gross value of Canada's manufacturing production in 1948, at nearly $11,801 million, exceeded that of 1939 by $8,326 million, while the volume adjusted for price increases was 1.83 times greater. The total tonnage of cargo in foreign trade entering and leaving Canadian ports increased from 27,773,000 in 1939 to 57,285,000 in 1948, and the railways moved a considerable portion of this two-way traffic. Much of the increase in gross earnings in 1948 was due to the freight rate increase of 21% (with some exceptions) made effective on April 8, 1948, by order of the Board of Transport Commissioners for Canada. However, despite the record gross earnings, the year was not a profitable one for the railway industry, having resulted in a net corporate loss for the railways as a whole. The 1948 operating costs, at $808,126,455, were $117,305,408, or 17%, greater than those of 1947. The operating expenses of the railways in 1939 were $304,373,285, and in 1938, $295,705,638. The increase in expenses in 1948 over 1947 exceeded the increase in revenues by $26,651,000. The net operating revenue in 1948 was restricted to $67,705,835, compared with $94,356,873 in 1947 and $161,862,765 in 1944. The net railway operating income decreased from $52,629,451 in 1947 to $33,162,676, and 15 of the 32 railways in Canada suffered deficits on operation during 1948, which was a year of reasonable prosperity and high employment. After adding non-operating income, which was slightly greater than in 1947, and making all deductions from income, there was a net corporate loss of $2,180,505 for the railways collectively in 1948. In 1947 there was net corporate income of $18,149,697 for the railways collectively. In 1948, 18 of the 32 properties had some net corporate income, totalling over $38 million, but the other properties had a net corporate loss totalling over $41 million.

Income Account. — The income account figures for the Canadian railways collectively, for 1948 and the five immediately preceding years, were published in our October issue, pg. 548. The year 1948 was the only one of the six for which the figures were given in which there was a net income deficit. In the other years, the net income ranged from a high of $84,062,527 in 1943 to a low of $13,212,314 in 1946.

Derivation of Gross Earnings.—As stated, the gross earnings for the railways collectively in 1948 were $875,832,290. Rail line earnings were $840,490,270; water line earnings were $3,509,076; incidental earnings were $30,971,144, and there was a joint

facilities credit balance of $861,800.

The rail line earnings were made up as follows:—

Freight	$698,724,709
Passenger	83,511,260
Excess baggage	379,968
Sleeping cars	7,772,336
Parlour and chair cars	667,242
Mail	9,180,136
Express	32,451,950
Other passenger train	86,321
Milk	642,534
Switching	6,798,192
Special service train	
Other freight train	868
Water transfer freight	230,799
Water transfer passenger	43,955
Total	$840,490,270

Water line earnings in 1948 were made up as follows:—

Freight	$2,990,530
Passenger	476,709
Excess baggage	
Mail	9,884
Express	2,225
Other	29,728
Total	$3,509,076

The incidental earnings in 1948 were as follows:—

Dining and buffet	$ 5,896,345
Hotel and restaurant	1,828,481
Station, train, etc., privileges	3,483,269
Parcel room	239,214
Storage—freight	350,595
Storage—baggage	127,594
Demurrage	3,214,795
Telegraph and telephone	8,735,167
Grain elevators	825,868
Stockyards	
Rents of buildings, etc.	1,465,427
Miscellaneous	4,757,579
Power	46,810
Total	$30,971,144

Operating Expenses.—As stated, the total operating expenses for the railways collectively in 1948 were $808,126,455, compared with $690,821,047 in 1947. Rail line transportation expenses in 1948 were $401,918,016, compared with $345,918,219 in 1947. Following are particulars of the operating expenses, divided among the chief accounts, for 1948 and 1947:—

	1948	1947
Maintenance of way & structures	$159,963,352	$134,097,450
Maintenance of equipment	174,473,389	145,614,589
Traffic	16,801,286	15,120,289
Transportation—		
Rail line	401,918,016	345,918,219
Water line	1,886,514	1,702,536
Miscellaneous operations	14,585,751	13,068,758
General expenses	38,496,147	35,299,206
Transportation for investment Cr.		
Total	$808,126,455	$690,821,047

Operating Statistics.—Total locomotive mileage in 1948 on the railways collectively was 179,339,200. Steam locomotive mileage was 172,369,707, made up of 90,691,684 locomotive miles in freight service, 45,642,654 in passenger service, 31,778,213 in switching service and 4,257,156 in non-revenue service. In addition, there were 6,969,493 electric and motor unit locomotive miles. The revenue freight train miles were 83,398,617, and revenue passenger train miles, 46,101,568, a total of 129,500,185. Non-revenue train miles were 3,008,015. Of the total revenue train mileage, 128,027,110 represented trains drawn by locomotives, and there were 1,473,075 passenger train miles with motor unit car as the motive power. Total freight car miles were 3,120,704,440, viz., 2,136,273,745 loaded, 901,276,962 empty, and 83,153,733 caboose.

Total passenger train car miles, in passenger trains, on the railways collectively, in 1948, were 387,765,834, in addition to which there were 22,837,247 passenger car miles operated in freight trains and 86,328 in non-revenue trains, making the grand total passenger train car mileage 410,689,409. Passenger train car miles in the form of motor unit cars and trailers were 2,853,599. Motor bus miles operated totalled 288,602.

Following are 1948 operating averages for the railways collectively:—Locomotive miles per mile of road, 4,239; train miles per mile of road, 3,132; loaded freight cars per freight train, 25.62; empty freight cars per freight train, 10.81; total freight cars per freight train, 37.42; passenger train cars per locomotive-hauled passenger train, 8.62; passenger cars per locomotive-hauled passenger train, 5.07.

Freight Traffic.—In 1948, the Canadian railways had 112,767,697 tons of revenue freight originated on their lines, while 42,165,107 tons were received from foreign connections and 21,807,421 tons were interchanged among Canadian railways, making the total revenue freight tonnage handled 176,740,225, compared with 175,565,526 in 1947. Total revenue freight ton mileage was 59,080,323,000. Tons originated per mile of road were 3,662, ton mileage per mile of road was 1,396,500; average revenue tonnage per freight train was 708, and average haul was 381 miles.

For revenue and non-revenue freight combined, tons carried were 199,010,001, and the total ton mileage was 64,427,771,000. Average tons per loaded car mile were 30.16. Gross ton miles per freight train mile were 1,636, and gross ton miles per mile of road were 3,224,339.

Passenger Traffic.—Passengers carried by the railways collectively in 1948 were 38,279,981, compared with 40,941,387 in 1947, and the 1948 passenger mileage was 3,477,273,000, compared with 3,732,777,000 in 1947. Passengers carried per mile of road decreased from 968 in 1947 to 905 in 1948, while the passenger mileage per mile of road decreased from 88,218 to 82,193. The average number of passengers per passenger train decreased from 82 in 1947 to 75 in 1948, and the average passenger journey decreased from 91.2 miles in 1947 to 90.8 miles in 1948.

Rail Line Freight Revenue.—For the railways collectively, the rail line freight receipts in 1948 were $698,724,709; switching receipts were $6,798,192, and other freight train receipts and water transfers were $231,667, making total freight revenue $705,754,568. Average freight revenue per mile of road was $16,682, and average earnings per freight train mile, $8.38. Average freight earnings per loaded freight car mile were 32.7c; average freight receipt per ton of freight originated, $4.51, and average freight receipt per revenue ton mile, 1.183c.

Rail Line Passenger Revenue.—Passenger receipts from rail line passenger traffic were $83,511,260 in 1948, compared with $87,798,544 in 1947, while receipts from sleeping, parlour and observation cars decreased from $8,617,632 in 1947 to $8,439,578 in 1948. Excess baggage receipts increased from $374,716 in 1947 to $379,968 in 1948. Mail revenue was up from $8,855,708 in 1947 to $9,180,136 in 1948, express revenue from $30,174,517 to $32,451,950, and milk revenue from $605,325 to $642,534, while other passenger train revenue and water transfer revenue was up from $112,523 in 1947 to $130,276 in 1948.

Total passenger train revenue in 1948 was $134,735,702, compared with $136,538,965 in 1947. Average passenger train revenue per mile of road in 1948 was $3,184.79, compared with $3,226.88 in 1947. Average passenger train revenue per passenger train mile decreased from $3.01 in 1947 to $2.92 in 1948, and revenue per passenger train car mile was down from 36.3c to 34.7c. Average receipt per passenger increased from $2.14 in 1947 to $2.18. The average receipt per passenger mile was up from 2.35c in 1947 to 2.40c, but the average receipt per passenger car mile decreased from 38.82c in 1947 to 36.47c in 1948.

For the railways collectively, gross earnings per mile of road were up from $18,556.42 in 1947 to $20,702.32 in 1948, and gross earnings per revenue train mile increased from $6.15 in 1947 to $6.76 in 1948.

Taxes.—The total tax bill for the railways collectively in 1948 was $19,759,345, compared with $26,392,364 in 1947. An accompanying two-column table provides a record of the taxes paid by the railway industry in Canada in the years 1943-1948 inclusive, the figures showing not only the taxes collected in individual provinces, but also the amounts paid in the various special taxes to which the railways are subjected.

Ties and Switch Ties.—In 1948, the Canadian railways purchased 1,162,958 hardwood ties and 9,462,009 softwood ties. Ties installed in previously constructed track totalled 7,858,914, viz., 5,675,228 treated and 2,183,686 untreated. Ties placed in new track and extensions were 400,440, viz., 228,807 treated and 171,633 untreated. Average cost of treated ties in 1948 was $2.16 each, and average cost of untreated ties $1.39 each.

Switch ties placed in track in 1948 amounted to 18,981 M. board feet, at average cost of $78.23. This was made up of 14,187 M. bd. ft. of treated timber, at average cost of $82.45, and 4,794 M. bd. ft. of untreated timber, at average cost of $65.75.

Rail.—The tonnage of new rail laid in 1948 by the railways collectively was 144,318, at cost of $11,083,562, and the relay rail laid was 216,339 tons, at cost of $5,397,928.

Canadian Railway Industry Taxation, 1943-1948

Province	Year ended December 31 1943	1944	1945	1946	1947	1948
rince Edward Island	$ 220	$ 220	$ 243	$ 294	$ 326	$ 359
ova Scotia	12,946	12,987	13,528	15,739	382,727	89,095
ew Brunswick	55,126	53,719	60,936	57,942	237,596	114,249
uebec	1,709,988	1,870,937	1,799,048	2,233,229	2,403,789	2,627,900
ntario *	2,012,173	2,028,589	1,963,841	2,119,750	2,784,766	3,415,561
anitoba	76,145	72,713	73,084	74,852	73,549	1,003,400
askatchewan	15,088	15,206	14,524	14,403	14,464	624,829
berta	342,656	357,686	385,822	413,771	456,428	519,881
ritish Columbia	838,651	807,436	886,639	834,774	984,192	1,090,327
ukon				6,188	9,200	7,522
come and Excess Profits Tax	35,628,420	26,073,202	21,817,857	14,813,750	14,317,810	5,504,095
nemployment Insurance	1,681,135	1,970,952	2,007,091	2,000,511	2,003,754	2,494,159
her Special Tax	357,258	227,887	217,154	207,994	211,764	234,441
utside Canada	1,699,739	1,615,364	1,552,932	1,726,147	2,501,798	2,011,999
Total	44,429,545	35,106,898	30,792,699	24,519,344	26,382,163	19,737,917
axes paid by Railway bridge companies	4,444	5,039	4,514	9,332	8,532	4,877
axes paid by Pullman company	34,986	39,616	19,510	Cr. 1,986	1,669	16,551
Grand Total	$44,468,975	35,151,553	30,816,723	24,526,690	26,392,364	19,759,345

*Includes Taxes on Lake Erie and Detroit River Railway which are paid as rent by the nesapeake and Ohio Railway (Pere Marquette Division).

Locomotive Fuel Consumption.—In 948, steam locomotives consumed ,189,312 tons of fuel, costing $103,-58,127, an average cost of $7.84 per on. An accompanying two-column table records the Canadian railway locomotive fuel consumption for the years 1943-1948 inclusive, giving figures for petroleum products as well as for coal.

Canadian Railway Locomotive Fuel Consumption, 1943-1948.

Class of Locomotive	Year ended December 31 1943 Tons	1944 Tons	1945 Tons	1946 Tons	1947 Tons	1948 Tons
reight	7,855,328	7,926,430	7,844,205	7,559,484	8,190,724	8,322,476
assenger	2,728,554	2,786,454	2,882,207	2,786,575	2,761,416	2,822,427
witching	1,734,754	1,671,274	1,688,163	1,699,159	1,792,047	1,736,738
on-revenue—						
Total tons	243,708	204,686	257,487	236,091	290,519	307,671
Total cost	$12,562,344	$12,588,844	$12,672,062	$12,281,309	$13,034,706	$13,189,312
verage cost per ton	*$69,745,352	*$77,313,018	*$78,612,740	$75,335,096	$89,683,084	$103,358,127
ail motor cars—	* $5.55	* $6.14	* $6.20	$6.13	$6.88	$7.84
Gasoline gals.	319,638	287,164	336,259	264,230	232,084	298,171
Diesel oil gals.	339,683	339,296	348,182	304,008	284,366	248,134
Fuel oil gals.				6,485		
Total cost	$56,869	$86,222	$95,778	$80,188	$80,585	$108,183
otor buses and motor trucks—						
Gasoline gals.	29,387	31,827	38,784	44,814	47,806	57,783
Total cost	$9,941	$11,250	$13,186	$14,090	$15,878	$21,458

*Revised.

Fuel consumption per hundred locomotive miles in freight service in 1948 was 9.18 tons; in passenger service, 6.18 tons; in switching service, 5.47 tons, and in non-revenue train service, 7.23 tons.

The cost of fuel per 100 locomotive miles in 1948 in freight service was $71.91; in passenger service, $48.46; in switching service, $42.83, and in non-revenue train service, $56.64.

Road Mileage.—Following is the record of average road mileage operated by the various railway properties in 1948, excluding duplications and the total including 1.1 miles for International Bridge and Terminal Co. and 0.3 mile for Van Buren Bridge Co.:—

Algoma Central & Hudson Bay	321.8
Alma and Jonquieres	10.6
British Yukon	90.3
Canada and Gulf Terminal	38.1
Canada Southern (Lessee N.Y.C.)	370.1
Canadian National	21,728.3
Canadian Pacific	17,032.7
Central Vermont	25.3
Chesapeake & Ohio (Pere Marquette Div.)	318.9
Cumberland	31.3
Essex Terminal	21.3
Great Northern	147.8
Greater Winnipeg Water District	92.0
Hudson Bay	510.1
Maine Central	5.1
Maritime Coal, Railway & Power Co.	12.0
Midland Railway of Manitoba	75.5
Morrissey, Fernie and Michel	5.0
Napierville Junction	41.7
Northern Alberta	927.9
Ontario Northland	574.3
Ottawa and New York	58.0
Pacific Great Eastern	347.0
Quebec Railway, Light & Power Co.	25.0
Roberval & Saguenay	29.0
St. Lawrence and Adirondack	60.9
Sydney & Louisburg	70.3
Temiscouata	113.0
Thousand Islands	4.5
Toronto, Hamilton & Buffalo	111.0
Toronto, Terminals	3.2
Wabash (in Canada)	245.4
Total	42,306.0
Canadian National (Canada & U.S.)	23,400.6

Dinner for W. S. Thompson, C.B.E.

The testimonial dinner for Walter S. Thompson, C.B.E., sponsored by the Montreal Men's Press Club, was held at the Mount Royal Hotel, Montreal, October 7, in accordance with the arrangements outlined in our October issue, pg. 534, and was an unqualified success. Publishers, editors, editorial writers, reporters, radio broadcasters and public relations men from all parts of Canada and from the United States and England, to the number of more than 400, gathered to honor Mr. Thompson, and the feelings of those present were well expressd by D. Leo Dolan, Director Canadian Government Travel Bureau, when he said:— "Mr. Thompson has done more to raise the dignity of the newspaper and public relations profession than any other man in Canada. He is one of the biggest Canadians in stature and in heart. I think he is the greatest member of our craft not only in Canada but on the North American Continent."— The Montreal Men's Press Club presented Mr. Thompson with a life membership in the Club, a distinction which he shares only with the Governor-General of Canada, Viscount Alexander. Also, friends of Mr. Thompson presented him with a new automobile. Recently, Mr. Thompson was honored by Canadian National Rys. general officers, and was presented with a framed copy of a resolution passed by the C.N.R. directors and a gift certificate from his colleagues. He was also presented with a piece of fitted luggage for Mrs. Thompson.

Labrador Iron Ore Railway

Reference to the awarding of contracts for the 360-mile railway line to run north from Seven Islands, on the north shore of the Gulf of St. Lawrence, to the iron ore fields on the Labrador-Quebec border, appeared in our October issue, pg. 550. On October 18, Dr. J. A. Retty, Chief Geologist for the Labrador Mining and Exploration Co., Ltd., addressed the Canadian Institute of Mining and Metallurgy, and indicated that actual construction work on the railway would start in the then near future. He is reported as having stated that the group behind the venture has already spent $10 million, and that the ore reserves to be tapped already stand at about 400 million tons. Work on building a dock at Seven Islands is proceeding. Listing the financial interests behind the venture, Dr. Retty mentioned the Iron Ore Co. of Canada, Hollinger Consolidated Gold Mines, Ltd., Hollinger-North Shore Exploration Co., Labrador Mining and Exploration Co., Republic Steel Corp., Hanna Coal and Ore Co., Youngstown Sheet and Tube Co., Wheeling Steel Corp., Armco Steel Corp. and National Steel Co.

New Type Freight Car

A freight car, entirely new in both design and construction, is currently attracting much attention in the United States. It is an all-wood laminated car without a center sill, and although much lighter than a conventional car, has already passed most severe load and impact tests. It was built by Pressed Steel Car Co., whose officers are confident that the new car will mark as important a milestone in railway history as did the first all-steel car, which the company introduced in 1897. The new car, of 50-ton capacity and 50 ft. 6 in. long, weighs 37,000 lb., compared with 55,-000 lb. for a conventional car of similar size. Instead of having a body mounted on an underframe, the whole car is in the nature of an underframe, and while the entire car is of single cellular construction, the sides, ends, floor and roof each have their own distinct strength characteristics, the cellular laminated design utilizing the whole car structure to absorb shocks and stresses. The car was displayed during October on a railway siding below the Waldorf-Astoria in New York, when representatives of the builder were quoted as stating that it is capable of increasing present freight car payloads by about 50%. The car is fitted to enable it to function as a refrigerator car when required.

The Pressed Steel Car Co. is reported as having spent over $1 million in perfecting the new car, which it is now about to begin building on a production basis.

The Car Loading Record

Car loadings were at a high level in the five weeks ended October 14; 439,969 cars were loaded with revenue freight on Canadian railways in the period, compared with 428,347 in the corresponding 1949 period, an increase of 11,622 cars.

There were increases in the numbers of cars loaded with revenue freight on Canadian railways in each of the weeks in the five-week period ended October 14 this year, over the numbers loaded in corresponding 1949 weeks, the total increase in the five-week period this year having been 11,622 cars. This increase was secured despite a considerable reduction in the grain loadings.

Week Ended September 16

In the week ended September 16 this year, total loadings were 88,090 cars, compared with 86,039 in the corresponding 1949 week. Grain loadings decreased from 10,942 cars in the week last year to 6,020. Live stock loadings came down slightly, viz., from 2,286 cars in the week last year to 2,267. Coal loadings decreased from 7,420 cars to 6,887, but pulpwood loadings increased from 2,631 cars to 3,232, and loadings of lumber, lath and shingles were up from 3,994 cars in the week last year to 6,074. Loadings of miscellaneous freight increased from 5,803 cars to 6,993, but loadings of merchandise, l.c.l., declined slightly, viz., from 18,632 cars in the 1949 week to 18,579.

Week Ended September 23

In this week, total loadings were 90,307 cars, compared with 85,993 in the corresponding 1949 week. Grain loadings decreased from 10,234 cars in the week last year to 7,665, and live stock loadings from 2,617 cars to 2,236. Pulpwood loadings were up from 2,499 cars in the week last year to 3,462, and loadings of lumber, etc., increased from 3,908 cars to 6,228. Loadings of miscellaneous freight were up from 5,743 cars in the week last year to 6,750, but those of merchandise, l.c.l., decreased from 18,763 cars to 18,448.

Week Ended September 30

Grain loadings in the week ended September 30 this year declined to 8,620 cars from 11,055 in the week last year, while live stock loadings were down from 2,596 cars to 2,197. Coal loadings decreased from 8,370 cars in the 1949 week to 7,081, but pulpwood loadings were up from 2,381 cars in the 1949 week to 3,325 cars, and loadings of lumber, etc., from 4,478 cars to 6,094. Loadings of miscellaneous freight increased from 5,704 cars in the 1949 week to 6,692 cars, but those of merchandise, l.c.l., again declined slightly, viz., from 18,869 cars in the week last year to 18,698 cars.

Week Ended October 7

There were 8,104 cars loaded with grain in the week ended October 7 this year, compared with 10,909 cars in the corresponding 1949 week, and live stock loadings came down from 2,724 cars in the week last year to 1,877 cars. Coal loadings declined from 8,165 cars in the 1949 week to 7,262 cars, but pulpwood loadings were up from 2,193 cars in the 1949 week to 3,268 cars, and loadings of lumber, etc., from 4,134 cars to 5,689. Loadings of miscellaneous freight increased from 5,776 cars in the week last year to 6,474, but loadings of merchandise, l.c.l., came down from 18,834 cars to 18,353.

Week Ended October 14

Total loadings in this week were 81,323 cars, compared with 77,619 cars in the corresponding 1949 week. This week included the Thanksgiving Holiday. Grain loadings decreased from 9,432 cars in the 1949 week to 8,370, and live stock loadings from 3,014 cars to 1,971. Coal loadings decreased from 6,651 cars in the week last year to 6,494, but pulpwood loadings were up from 2,113 cars to 3,142, and loadings of lumber, etc., from 3,636 cars to 4,902. Loadings of miscellaneous freight increased from 4,881 cars to 5,507, while loadings of merchandise, l.c.l., decreased from 16,449 cars to 16,013.

Cumulative Totals of Loadings

The cumulative total of cars loaded with revenue freight on Canadian railways to October 14 this year was 3,007,638, compared with 3,065,431 in the corresponding part of 1949 and with 3,170,061 in the corresponding part of 1948, the corresponding figures for Eastern Canada being 2,012,550, 1,986,135 and 2,116,357, and, for Western Canada, 995,088, 1,079,296 and 1,053,704.

The cumulative total of grain loadings to October 14 in all of Canada was 221,248 cars, compared with 289,585 in the corresponding part of 1949 and with 243,322 in the corresponding part of 1948, the corresponding figures for the cumulative totals of live stock loadings being 64,369, 69,129 and 87,977; of coal loadings, 238,797, 233,285 and 242,327; of pulpwood loadings, 132,510, 149,512 and 220,694; of loadings of lumber, lath and shingles, 177,615, 140,051 and 165,225; of loadings of miscellaneous freight, 221,960, 214,008 and 228,065, and of loadings of merchandise, l.c.l., 670,214, 733,581 and 739,421.

Week Ended:—	September 16			September 23			September 30			October 7			October 14		
	All Can.	East. Can.	West. Can.	All Can.	East. Can.	West Can.	All Can.	East. Can.	West. Can.	All Can.	East. Can.	West Can.	All Can.	East. Can.	West Can.
Grain	6,020	1,201	4,819	7,665	1,371	6,294	8,620	1.586	7,034	8,104	1,656	6,448	8,370	1,312	7,058
Grain products	2,699	1,322	1,377	2,825	1,544	1,281	3,023	1,617	1,406	2,885	1,416	1,469	2,504	1,248	1,256
Hay and straw	334	169	165	244	162	82	317	199	118	308	215	93	387	286	101
Fruits, fresh	575	145	430	792	318	474	557	167	390	506	169	337	573	130	443
Vegetables, fresh or green	682	531	151	1,070	908	162	1,048	914	134	845	715	130	782	653	129
Other agricultural products	147	111	36	173	115	58	394	97	297	816	182	634	1,328	205	1,123
Live stock	2,267	718	1,549	2,236	733	1,503	2,197	913	1,284	1,877	644	1,233	1,971	636	1,335
Butter, cheese, eggs	140	68	72	118	50	68	102	54	48	90	44	46	100	47	53
Fresh meats & packing house products (edible)	449	179	270	472	170	302	444	174	270	445	188	257	394	168	226
Other packing house products	53	29	24	47	21	26	39	18	21	69	42	27	61	46	15
Other animal products	95	65	30	103	73	30	98	74	24	115	95	20	84	66	18
Coal	6,887	4,081	2,806	7,028	3,987	3,041	7,081	3,953	3,128	7,262	3,972	3,290	6,494	3,394	3,100
Coke	686	616	70	688	605	83	753	679	74	688	615	73	690	615	75
Ores and concentrates	4.518	3,207	1,311	5,149	3,223	1,926	4,768	2,703	2,065	5,322	3,318	2,004	4,353	2,747	1,606
Base bullion, matte, pig & ingot (non-ferrous metals)	712	457	255	612	365	247	566	386	180	541	373	168	569	362	207
Sand, stone, gravel, plaster, lime, brick, cement, sewer pipe, tile	5,636	3,956	1,680	5.515	3,919	1,596	5.487	4,025	1,462	5,472	4,001	1,471	5,051	3,803	1,248
Other mine products	2,180	1,869	311	2,032	1,753	279	2.204	1,896	308	2,110	1,912	198	2,186	1,998	188
Logs, piling, cordwood	1.251	278	973	1.353	318	1,035	1.217	317	900	1,183	317	866	975	239	736
Pulpwood	3,232	2,926	306	3,462	3.161	301	3.325	3,008	317	3,268	3.080	188	3,142	2,921	221
Lumber, lath, shingles	6,074	3,671	2,403	6,228	3,911	2,317	6,094	3,787	2,307	5,689	3,659	2,030	4,902	3,283	1,619
Other forest products	551	432	119	528	405	123	506	409	97	487	371	116	540	434	106
Gasoline, petroleum oils & pdts.	5,074	3,489	1,585	4,920	3,507	1,413	4,742	3,526	1.216	4,602	3,515	1,087	4,058	3,132	926
Crude oil	1,434	4	1,430	1,342	4	1,338	1.504	4	1,500	1,626	4	1,622	1,176	6	1,170
Sugar	470	342	128	388	303	85	430	313	117	422	261	161	222	142	80
Iron & steel pdts. (manufactured)	2,160	1,950	210	2,125	1,867	258	2,092	1,876	216	2,078	1,733	345	1,796	1,580	216
Implements, tractors, machinery, boilers	500	344	156	532	398	134	534	393	141	495	351	144	417	301	116
Autos, trucks and parts	1,778	1,657	121	1.643	1,505	138	1,492	1,379	113	1,417	1,343	74	1,251	1,152	99
Fertilizers	570	410	160	581	234	347	582	269	313	543	246	297	598	222	376
Woodpulp and paper	4,472	3,909	563	4.411	3,882	529	4,649	4,086	563	4,571	4,016	555	4,231	3,647	584
Canned food products	872	691	181	827	575	252	721	518	203	610	457	153	618	491	127
Other products of mfrs. and misc.	6,993	5,621	1,372	6,750	5,419	1,331	6,692	5,391	1,301	6,474	5,151	1,323	5,507	4,395	1,112
Merchandise, l.c.l.	18 579	13.668	4,911	18,448	13,493	4,955	18.698	13.868	4,830	18,353	13.517	4,836	16,013	11,954	4,059
Total revenue cars loaded	88,090	58.116	29,974	90.307	58.299	32,008	90.976	58.599	32,377	89,273	57.578	31,695	81,323	51.524	29,799
In corresponding week of 1949	86.039	52,388	33,651	85,993	53,039	32.954	89.614	54.278	35,336	89,082	53,724	35.358	77,619	47 816	29,803
Received from connections	34,840	32,257	2,583	35,419	32,683	2,736	36,131	33,167	2,964	35,312	32,393	2.919	35,535	32,779	2,756

Cars Received from Connections

To October 14 this year, the Canadian railways received 1,272,645 cars of revenue freight from connections, compared with 1,262,780 in the corresponding part of 1949 and with 1,413,879 in the corresponding part of 1948.

Loadings in Weeks Ended August 26 and September 2

In our article reviewing the car loadings in the October issue, pg. 547, we were unable to present any figures for the weeks ended August 26 and September 2, because of the effect of the strike of the non-operating employees of the railways. The Bureau of Statistics has now made these figures available, and they record that loadings in the whole country in the week ended August 26 were 18,892 cars, which was certainly a large decrease from the total of 86,179 cars loaded in the corresponding 1949 week. Loadings in Eastern Canada were 13,884 cars, compared with 51,522 in the 1949 week, and in Western Canada, 5,008 cars, compared with 34,657 in the 1949 week.

In the week ended September 2, loadings in the whole country were 47,639 cars, compared with 85,027 in the corresponding 1949 week; in Eastern Canada, 31,349 cars, compared with 50,289 in the 1949 week, and in Western Canada, 16,290 cars, compared with 34,738 cars in the 1949 week.



A. J. Medrow,
Assistant General Freight Agent, C.N.R.-G.T.W., Chicago (see pg. 608).

Transportation Appointments

The information under this head, which is gathered almost entirely from official sources, is compiled with the greatest care, so as to ensure accuracy. Anyone who may notice any error in the announcements will confer a favor by advising the Editor.

Canadian National Railways

R. E. BEAMISH has been appointed Assistant Director of Public Relations, Montreal, to fill the vacancy resulting from the promotion of G. H. Lash to the position of Director of Public Relations.

T. H. COOPER, previously Vice President and Comptroller, has relinquished the position of Comptroller and continues as Vice President, Accounting, and in addition to having general supervision over the Accounting Department will undertake such special duties as may be assigned to him from time to time by the President.

ERNEST CUTTS, previously Assistant Superintendent, Melville, Sask., has been appointed Superintendent, Saskatoon, Sask., succeeding T. S. Sullivan.

GEORGE DUNBAR, previously General Yardmaster, Saskatoon, Sask., has been appointed Assistant Superintendent there, succeeding E. K. House.

D. V. GONDER, previously General Manager, Western Region, has been appointed Assistant Vice President, with headquarters at Montreal, and will undertake special mechanical studies on the system.

J. W. A. GOUIET, previously Road Foreman of Engines, Cochrane Division, has been appointed Road Foreman of Engines, Laurentian Division. Headquarters, Chauvigny, Que.

T. J. GRACEY, previously Assistant Comptroller, has been appointed Comptroller.



W. B. Jackson, B.Sc.,
Division Engineer, C.N.R., Cochrane, Ont. (see pg. 608).

G. M. HARDING, previously Mechanical Engineer, has been appointed Chief Mechanical Engineer. Headquarters, Montreal.

E. K. HOUSE, previously Assistant Superintendent, Saskatoon, Sask., has been appointed Assistant Superintendent, Melville, Sask., succeeding E. Cutts.

T. F. HOYT, previously Road Foreman of Engines, Campbellton Division, has been appointed Master Mechanic, Campbellton Division, with headquarters at Campbellton.

FRANK H. KEEFE, previously General Superintendent, British Columbia District, has been appointed General Manager, Western Region, succeeding D. V. Gonder. Headquarters, Winnipeg.

D. G. KISSICK, previously Assistant Superintendent, Vancouver, has been appointed Superintendent, Kamloops, B.C., succeeding R. H. Robertson.

G. H. LASH, previously Assistant Director of Public Relations, has been appointed Director of Public Relations, succeeding W. S. Thompson, C.B.E., retired under the pension rules after more than 36 years of distinguished service to the national system and to Canada.

M. LEBLANC, previously Supervisor of Signals, Levis, Que., has been appointed Superintendent of Signals, Quebec District, with headquarters at Quebec, succeeding M. M. Stonehouse, resigned.

G. LORTIE has been appointed Road Foreman of Engines, Cochrane Division, succeeding J. W. A. Goulet, transferred. Headquarters, Parent, Que.

J. R. McMillan, previously General Superintendent, Manitoba District, Western Region, has been appointed Vice President, Western Region, succeeding J. P. Johnson, retired. Headquarters, Winnipeg.

T. A. MAINPRIZE, previously Assistant Superintendent, Kamloops, B.C., has been appointed Assistant Superintendent, Vancouver, succeeding D. G. Kissick.

R. H. ROBERTSON, previously Superintendent, Kamloops, B.C., has been appointed General Superintendent, British Columbia District, succeeding F. H. Keefe. Headquarters, Vancouver.

R. L. STEEVES, previously Locomotive Engineer, has been appointed Road Foreman of Engines, Campbellton Division, succeeding T. F. Hoyt, promoted. Headquarters, Campbellton, N.B.

T. S. SULLIVAN, previously Superintendent, Saskatoon, Sask., has been appointed General Superintendent, Manitoba District, succeeding J. R. McMillan, promoted.

E. C. TAYLOR, previously Master Mechanic, Campbellton Division, has been appointed Master Mechanic, New Glasgow Division, with headquarters at New Glasgow.

J. W. WRIGHT, previously Staff Record Clerk, Port Arthur, Ont., has been appointed Assistant Superintendent, Kamloops, B.C., succeeding T. A. Mainprize.

Canadian National Rys. Express Department

A. I. CRAIG, previously Traffic Supervisor, Eastern and Northern Ontario Division, North Bay, Ont., has been appointed Terminal Agent, Toronto.

R. H. JOSLIN, previously Assistant Terminal Agent, Toronto, has been appointed Traffic Supervisor, Eastern and Northern Ontario Division, with headquarters at North Bay, Ont.

J. A. McGINN, previously Terminal Agent, Toronto, has been appointed Traffic Supervisor, Eastern and Northern Ontario Division, with headquarters at North Bay, Ont.

Canadian Pacific Railway

L. E. ABBEY.—In our October issue, pg. 549, it was erroneously stated that Mr. Abbey had been appointed Superintendent and Division Master Mechanic at Penticton, B.C.; it should have been stated that he had been appointed Assistant Superintendent and Division Master Mechanic at Penticton.

C. S. BARBER, previously representative in London, England, has been appointed District Representative, Liverpool, succeeding Capt. A. S. Walter, retired under the pension rules.

J. M. BARTLETT, previously Passenger Representative, Banff, Alta., has been appointed City Passenger Agent, Victoria, B.C., succeeding R. D. Matthews.

J. S. BAUER has been appointed District Electrician, New Brunswick District, Saint John, N.B., succeeding W. C. Whipple, retired under the provisions of the pension plan.

C. A. COLPITTS, previously District Engineer, Vancouver, B.C., has been appointed Engineer of Track, succeeding R. A. Emerson, appointed Assistant Chief Engineer. Headquarters, Montreal.

T. W. CREIGHTON, previously District Engineer, Manitoba District, has been appointed District Engineer, British Columbia District, Vancouver, succeeding C. A. Colpitts.

J. W. DUFFIE, previously Assistant Tax Agent, has been appointed Tax Agent. (Press report.)



T. M. Sutherland,
Inspector, Investigation Department, C.P.R., Winnipeg (see pg. 609).

JOHN ENO has been appointed District Car Service Agent, with headquarters at North Bay, Ont.

R. E. GRANT, previously Roadmaster, Consul, Sask., has been appointed Division Engineer, Moose Jaw.

C. K. HOLDEN, previously Special Engineer at Western Region Engineering headquarters, has been appointed District Engineer, Manitoba District, Winnipeg, succeeding T. W. Creighton.

A. HOLMSTROM, previously Roadmaster east out of Kenora, has been appointed Roadmaster west out of Kenora, succeeding George Larson, retired.

EWEN MACDONALD, previously London, England, representative, has been appointed Assistant to the European Colonization Manager, with headquarters in London.

A. P. MACKINNON, previously Manager of the Hotel Algonquin, St. Andrews-by-the-Sea, N.B., has been appointed Executive Assistant Manager, Royal York Hotel, Toronto, succeeding H. Waller, retired.

E. C. B. MACNABB, previously Division Engineer, Moose Jaw, has been appointed Assistant District Engineer, Vancouver.

R. MYKLE, previously Roadmaster, Fort William, Ont., has been appointed Roadmaster, Ignace, Ont.

H. F. NELSON, previously District Passenger Agent, Toronto, has been appointed District Passenger Agent, Regina, Sask., succeeding J. C. Pike, retired on pension.

HARRY NEWTON, previously Passenger Traffic Representative, Vancouver, has been appointed District Passenger Agent, Saint John, N.B., succeeding H. I. Saunders.

M. PASHNIAK, previously Roadmaster, Assiniboia, has been appointed Roadmaster, Broadview, Sask.

R. P. ROGAL, previously Relieving Roadmaster, Moose Jaw, has been appointed Roadmaster, Assiniboia, Sask.

F. A. RUTHERFORD, previously Assistant Tax Commissioner, has been appointed Tax Commissioner, succeeding W. R. Jeffery, retired under the pension rules. (Press report.)

H. I. SAUNDERS, previously District Passenger Agent, Saint John, N.B., has been appointed District Passenger Agent, Toronto, succeeding H. F. Nelson.

A. SWANSON, previously Roadmaster, Broadview, has been appointed Roadmaster, Fort William, Ont.

K. A. TRUMAN, previously Assistant District Engineer, Vancouver, has been appointed Special Engineer, Winnipeg.

J. A. M. WATSON, previously London, England, representative, has been appointed Continental Representative, with headquarters in London.

L. R. WEARE, previously Roadmaster, Ignace, Ont., has been appointed Roadmaster, east out of Kenora, Ont.

Department of Transport

H. J. WILLIAMSON has been appointed District Controller of Air Services, Moncton, N.B.

Minneapolis, St. Paul and Sault Ste. Marie Rd.

J. D. BOND, whose appointment as Assistant to the President, effective August 15 last, was recorded in our September issue, pg. 496, has also been elected Secretary of the company, succeeding J. C. Peterson, resigned.

Toronto Transportation Commission

JOHN Y. DORAN, previously Assistant Engineer in the Electrical Department, has been appointed Electrical Engineer, succeeding J. F. Neild, retired

Rolling Stock Orders and Deliveries

Canadian National Rys.

It was recorded in our October issue, pg. 545, that the C.N.R. had ordered eight 1,600 h.p. Diesel-electric road freight locomotives (four "A" units and four "B" units) from Montreal Locomotive Works, Ltd. A recent report states that the expenditure for these locomotives will be in the neighborhood of $1,500,000 and that this order brought to about $13,700,000 the value of new equipment ordered by the C.N.R. in 1950. To September 30, it was stated, the C.N.R. had taken delivery of 29 Diesel-electric locomotives, viz., 18 600 h.p. units, three 1,000 h.p. units and eight 1,500 h.p. units. In addition to the eight units ordered from Montreal Locomotive Works, Ltd., there remained to be delivered 22 800 h.p. units by General Motors Diesel, Ltd., London, Ont.

It was also mentioned in our October issue that the C.N.R. had ordered 5,000 steel box cars at cost of approximately $33 million, with the order divided among Canadian Car and Foundry Co., Ltd., National Steel Car Corp., Ltd., and The Eastern Car Co., Ltd. Since the October issue was printed, the following official advice in regard to this order has been received:—"Five thousand steel box cars, costing approximately $33,000,000, have been ordered by the Canadian National Railways from Canadian builders it is announced here by E. A. Bromley, vice-president, purchases and stores. Delivery of the new cars will commence early in 1951 and will alleviate the present shortage in this type of rolling stock as they will not replace retired equipment but will be used to supplement the present Canadian National fleet.

"The new order brings to $46,700,000 the total spent by the railway on 1950 orders for new equipment. Three companies, the Canadian Car and Foundry, the National Steel Car Corporation and the Eastern Car Company will share the new order.

"The cars will have a capacity of 50 tons and 3,898 cubic feet. They will be all-steel in construction with a lining of wood on the sides and ends and a wooden floor. The side framing will be built so that it does not come down upon the wood floor and this arrangement will facilitate repairs to the flooring. Another new feature will be the elimination of the wooden lining in the roofs. Instead, the insides of the steel roofs will be sprayed with an asphalt compound to absorb condensation.

"The latest type of four-wheel trucks, with new brake beams that conform to latest safety and A.A.R. standards will be fitted to the cars."

More recently, the C.N.R. ordered 18 0-6-6-0 Diesel-electric locomotives from Canadian Locomotive Co., Ltd., Kingston, Ont.

The C.N.R. is reported as having ordered five mail and express cars from National Steel Car Corp., Ltd.

In the period September 19-October 18, National Steel Car Corp., Ltd., completed delivery on a C.N.R. order for 100 longitudinal hopper cars of 70-ton capacity.

Canadian Pacific Ry.

In the period September 17-October 18, the C.P.R. received the last car on an order for 64 first class passenger cars, completed at its Angus Shops.

Also received during the period designated were four 1,500 h.p. Diesel-electric freight locomotives, "A" units, from Montreal Locomotive Works, Ltd., and four 1,500 h.p., "B" units, completing an order for 20 "A" units and 20 "B" units; four 1,500 h.p. freight and passenger Diesel-electric locomotives from General Motors Diesel, Ltd., London, Ont., bringing the number received to six on an order for 10; 181 50-ton box cars from Canadian Car and Foundry Co., Ltd., completing an order for 300, and 59 50-ton box cars from The Eastern Car Co., Ltd., first received on an order for 200.

Minneapolis, St. Paul and Sault Ste. Marie Rd.

G. A. MacNamara, President of the Soo Line, announced that at a meeting of the directors on October 3, approval was given to the building of 400 additional 40-foot box cars and 100 twin hopper gondolas. Work will be done in the company's shops at North Fond du Lac, Wis., and will commence as soon as materials arrive. The box cars will be of steel exterior and with nailable steel flooring.

This is part of a continuing programme initiated by the Soo Line two years ago when the company re-tooled its Fond du Lac shops in order to become its own car builder. Since that time 500 40-foot and 50 50-foot all steel box cars with high speed trucks have been built, along with 200 all steel general service gondolas and 200 70-ton ore cars equipped with compensating brakes. At present 200 composite gondolas are being rebuilt to all steel. Prior to rebuilding, these cars had wooden floors and side boards. Still to be built, of those previously authorized, are 250 new 80,000 pound capacity box cars with underframes of A.A.R. design and with steel roofs.

This will make 1,900 new cars to be added to the Soo Line fleet in two years from its own shops. In addition, the company recently purchased and received 75 covered hoppers.

Pacific Great Eastern Ry.

In the period September 19-October 18, National Steel Car Corp., Ltd., shipped 20 70-ton longitudinal hopper cars to Pacific Great Eastern Ry., completing order.

A Victoria press dispatch records that the P.G.E.R. has ordered six Diesel-electric locomotives from Montreal Locomotive Works, Ltd., for delivery early in 1951, in furtherance of a programme for complete conversion from steam to Diesel-electric power.

C.N.R. Macdonald Hotel Extension

Canadian National Rys. plans for the construction of an extension to the Macdonald Hotel, at Edmonton, were described in a recent issue. Recent announcement by G. F. Drummond, the C.N.R. Chief Architect, is that the general contract for this extension has been awarded to Poole Engineering Co., Edmonton.

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Traffic Club of Hamilton

It was noted briefly in our October issue that the Traffic Club of Hamilton is observing its 25th anniversary this year, and that it is holding a Jubilee Dinner in December. Recent advice is that the dinner will be held at the Royal Connaught Hotel, in Hamilton, December 14, with the Club President, Fred Pike, Traffic Manager, Hamilton Bridge Co., Ltd.-Sawyer-Massey, Ltd., presiding.

The Traffic Club of Hamilton has an interesting history. It began October 1, 1925, when a number of industrial traffic men met in the Hamilton Chamber of Commerce board room under the chairmanship of James Redmond, then and now Traffic Manager, Frost Steel and Wire Co., Ltd. A week later another meeting was held, and a club was formed with the name "Shippers' Business Club of Hamilton" and with Mr. Redmond as President. The original constitution and bylaws were dated November 12, 1925. In January, 1927, the name of the club was changed to "Traffic Club of Hamilton" and the field of membership was widened to take in all connected with the transportation industry. On February 10, 1927, the inaugural meeting of the reorganized club was held, with some 80 members and guests in attendance, and Mr. Redmond was again elected President. Since that time, the membership has grown steadily, and includes representatives of Canadian and United States railways, and of steamship, air transport and motor transport lines, as well as industrial traffic men, and many members are resident outside of Hamilton.

The present officers of the club, in addition to President Pike, are K. C. Walker, Vice President; D. H. Brown, immediate past President; A. McVittie, Treasurer, and A. Johns, Secretary. Other members of the executive committee are J. R. Ellithorn, L. E. Harris, George Jackson, J. C. Mitchell, H. Haslam, E. Dudley, G. Allan Cox, E. A. Lavery, Earl Perkins and J. G. Saunders. G. E. Jepson and F. T. Parker are auditors. The Club suffered a grievous loss this year in the death of George C. Martin, who was Traffic Manager, Toronto, Hamilton and Buffalo Ry., and Honorary President of the Club.

New Branch of Transport Department

The formation of a new directorate in the Dominion Department of Transport, responsible for the planning and development of special projects, was announced October 19 by the Minister of Transport, Mr. Chevrier. The new Special Projects Branch unites the General Engineering services and the Engineering Design and Capital Construction services of the Department under Guy A. Lindsay, who was engineer in charge. W. L. Mackenzie, who was senior bridge and structural engineer of the Department, has been appointed Assistant Director of the new Branch.

The Minister stated that it was essential to strengthen the engineering services of the Department in view of the possibilities of Canada being called upon at this time to take some decisive action in connection with the development of the St. Lawrence waterways. Mr. Lindsay has been closely associated with the St. Lawrence Waterways development since 1920, and is the Chairman of the Canadian Advisory Committee on the St. Lawrence Waterways Plan.

Born in Brandon, Man., in 1894, Mr. Lindsay attended school at Brandon and Winnipeg. The first world war interrupted his engineering studies at McGill University and he proceeded overseas with the Canadian Railway troops. He resumed his engineering course at McGill on his return from overseas and graduated in 1920. That same year he joined the Department of Railways and Canals, which was later incorporated in the Department of Transport, and for a while was mainly engaged in St. Lawrence Waterways Plan work. As officer in charge of engineering services, he has been responsible for a number of important engineering surveys and undertakings conducted by the Department.

William L. Mackenzie was born in Ottawa in 1895. He graduated from McGill University in 1917 with his B.Sc. in engineering, before proceeding overseas with the Canadian Engineers. After returning to Canada, he was associated with private firms before joining the Department of Railways and Canals in 1921. He was associated with the construction of the Welland Ship Canal until 1928, when he proceeded to Churchill, Man., where he was engaged as designing engineer for the government harbour construction. Since 1936, he has been stationed at Ottawa in the capacity of senior office engineer, and later as senior bridge and structural engineer.

Toronto Railway Club

The Toronto Railway Club held its October meeting at the Royal York Hotel, Toronto, on the 23rd, with N. A. Walford, First Vice President of the Club, presiding. H. C. Drake, Research Consultant, Sperry Products, Inc., was the guest speaker, his subject having been "Ultrasonic Testing of Rail Inside Joint Bars". In his address, which was illustrated by a motion picture and slides, he described the Sperry Rail Service test car, based on the ultrasonic testing principle, which eliminates the need for removing joint bars to determine the condition of the rail at the bars.

The Club's November meeting will be held on the 20th, when G. H. Wheatley, Illuminating Engineer, Canadian General Electric Co., Ltd., will speak on "Magic of the Spectrum".

Birthdays of Transportation Men

November 16 to December 15

Many happy returns of the day to:—

REGINALD AMBROSE, formerly Superintendent of Car Equipment, Atlantic Region, C.N.R., Moncton, N.B., born at Birkdale, Lancs, England, December 4, 1883.

JULES ARCHAMBAULT, B.A., B.Sc., (E.E.), Chief Engineer, Montreal Tramways Co., born at Montreal, December 13, 1900.

M. T. BANCROFT, Vice President and Comptroller, Quebec Power Co., and Quebec Ry., Light & Power Co., born at Knowlton, Que., November 22, 1895.

W. E. G. BISHOP, Division Freight Agent, C.N.R., Duluth, Minn., born at Central Clarence, N.S., December 4, 1888.

E. A. BOTTRILL, General Agent, Canadian Pacific Express Co., Toronto, born in England, December 9, 1888.

T. G. BRITTEN, Local Manager, Canadian National (West Indies) Steamships, Ltd., Halifax, N.S., born at St. Alban's, England, December 6, 1899.

C. L. BURPEE, General Agent, Passenger Department, C.P.R., Washington, D.C., born at Saint John, N.B., December 10, 1900.

H. J. CURTIS, Vice President and General Manager, Provincial Transport Co., Montreal, born at Cardiff, Wales, November 25, 1897.

R. G. DAVIDSON, Division Engineer, C.N.R., Prince Rupert, B.C., born at Longside, Aberdeenshire, Scotland, December 11, 1886.

H. W. GILLIS, Freight Traffic Manager, C.P.R., Montreal, born at Richmond, Que., December 7, 1889.

J. H. GRAVEL, Engine Foreman, C.N.R., Valcartier Station, Que., born at St. Louis Chambord, Lac St. Jean, Que., November 18, 1898.

H. C. GRAYSTON, Chief of Car Service, C.N.R., Montreal, born at Wimbledon, England, November 17, 1901.

C. F. GWYN, Assistant Superintendent, C.P.R., Moose Jaw, Sask., born at Montreal, November 29, 1908.

S. B. HARRISON, Roadmaster, C.P.R., Salmon Arm, B.C., born at Brisco, B.C., December 12, 1906.

A. E. HARTLEY, Superintendent, C.P.R., Saskatoon, Sask., born at Battle Creek, Mich., December 3, 1891.

D. C. HARTLEY, Superintendent, C.P.R., Revelstoke, B.C., born at Brantford, Ont., November 19, 1897.

R. A. HASENTAB, General Freight Agent, C.P.R., Boston, Mass., born at Indianapolis, Ind., December 9, 1905.

ASHLEY G. HIBBARD, Division Engineer, Montreal Terminals Division, C.P.R., Montreal, born at Sillery, Que., December 2, 1914.

JAMES LOUIS HICKEY, General Purchasing Agent, Canada Steamship Lines, Montreal, born there, November 22, 1906.

T. M. HOLLAND, District Freight Agent, C.P.R., Minneapolis, St. Paul and Sault Ste. Marie Rd., Pittsburgh, Pa., born at New York City, November 20, 1896.

J. M. MacARTHUR, General Manager, Northern Alberta Rys. Co., Edmonton, Alta., born at Toronto, December 8, 1885.

J. H. McDIARMID, formerly Superintendent, Oshawa Ry., C.N.R. Electric Lines, Oshawa, Ont., born at Avonmore, Ont., December 4, 1884.

A. E. McGRUER, Electrical Engineer, Eastern Region, C.P.R., Toronto, born at Barrow, England, December 13, 1900.

HUGH MACKINNON, Locomotive Foreman, C.N.R., Transcona, Man., born at Paisley, Scotland, December 8, 1899.

J. A. MORIN, Transportation Assistant, C.N.R., Quebec, Que., born at L'Islet, Que., November 21, 1900.

F. W. MOTTLEY, European Freight Manager, C.P.R. at London, born there, November 17, 1887.

G. F. C. NELSON, Superintendent, C.N.R., Fort William, Ont., born at Carleton Place, Ont., December 1, 1891.

J. L. PALETHORPE, Superintendent, C.P.R., Penticton, B.C., born at Ingersoll, Ont., November 30, 1889.

J. C. PATTESON, C.M.G., European General Manager, C.P.R., London, England, born at London, Ont., December 5, 1896.

R. G. PERRY, General Traffic Manager, Provincial Transport Co., Montreal, born there, December 13, 1895.

G. D. POGUE, Assistant Superintendent, Trenton Division, C.P.R., Smiths Falls, Ont., born at Omemee, Ont., November 27, 1906.

H. S. RIMMINGTON, Bridge Engineer, Western Region, C.N.R., Winnipeg, Man., born at Toronto, December 7, 1890.

E. B. RYERSON, Superintendent of Terminals, C.N.R., Toronto, born at Brantford, Ont., November 23, 1898.

J. H. SANDERSON, Comptroller, Ottawa Transportation Commission, born at Ottawa, December 3, 1894.

FRANK SIMPSON, Manager, C.N.R. Rail Lines, Coastal Steamship and Dry Dock, Newfoundland Railway at St. John's, born at Aberdeen, Scotland, November 27, 1890.

JOHN SULLIVAN, Superintendent, C.N Telegraphs, Montreal, born at Toronto, December 12, 1888.

J. H. SWETNAM, Superintendent, C.N.R., Moncton, N.B., born there, November 23, 1888.

L. C. THOMPSON, O.B.E., formerly Manager of Stores, C.N.R., Montreal, now residing in Toronto, born at Kingston, Ont., November 25, 1882.

E. M. THRASHER, Agent, C.P. Express Co., Sault Ste. Marie, Ont., born at Pembroke, Ont., December 12, 1912.

GUY TOMBS, formerly Assistant Freight Traffic Manager, Eastern Lines, C.N.R., now President, Guy Tombs, Ltd., transportation agents, Montreal, born near Lachute, Que., November 22, 1877.

W. A. WHYTE, General Freight Agent, C.N.R., Vancouver, B.C., born at Hornsey, England, November 24, 1889.

RUSSELL WORKMAN, formerly Superintendent of Transportation, Ontario Northland Ry., North Bay, Ont., born at Heckston, Ont., December 15, 1882.

Canadian Railway Club

The Canadian Railway Club, Montreal, held its opening fall meeting in September, when about 700 members and guests were present. Following a brief business session, a very good variety show was presented, after which there was drawing for door prizes which had been donated by members of the supply fraternity.

At the Club's October meeting, at the Mount Royal Hotel, Montreal, on the 16th, the Dominion Minister of Citizenship and Immigration, Hon. W. E. Harris, spoke on the Canadian immigration policy.

Railway Facts

The following facts of interest in connection with the railway industry in the United States are mentioned by the Association of American Railroads.

American railways moved an average of 19,708 tons of freight one mile for each hour of freight train operation in the first half of 1950, the highest average ever attained and an increase of 2,085 tons compared with the peak war year 1944.—The average speed of freight trains in the first six months of 1950 was 1.2% faster than in the same period of 1949 and 8% faster than in 1944.—The average load of freight per train on Class I railways in the first half of 1950 was 1,175 tons, which was higher than in any previous year except in 1948, when it was 1,176 tons, and 45% greater than in 1939.—Most steel rails, after being rolled, are placed in open top cars lined with rock wool, so that their cooling can be controlled, and then are subjected to a rigid inspection in order to make sure they are capable of doing the job for which they are intended.—The Pullman Company in an average week serves more than 300,000 travelers, which requires about 1,800 conductors, 8,600 porters, a small army of car cleaners and hundreds of maintenance specialists.—Class I railways are expected to spend approximately $762,494,000 for locomotives and freight and passenger train cars in 1950.—Of the 8,579 parlor and sleeping, dining, club, lounge and observation cars in operation by Class I railways and the Pullman Company, fewer than 240 remain to be air-conditioned.

Diesels on Ontario Northland Ry.

Recent Official advice is that the Ontario Northland Ry. has ordered six Diesel-electric locomotives from General Motors Diesel, Ltd., London, Ont., these to be 1,500 h.p. "A" units. Also, the O.N.R. has ordered one 1,000 h.p. Diesel-electric switching locomotive from Montreal Locomotive Works Ltd.

At the present time, the O.N.R. has seven Diesel-electric locomotives in operation, viz., three 1,000 h.p. switchers and four 1,500 h.p. road switchers. The three 1,000 h.p. switchers were supplied by American Locomotive Co. and the four 1,500 h.p. road switchers by Montreal Locomotive Works, Ltd.



O.N.R., 1,000 H.P. Diesel-electric Yard Switcher, One of Three Supplied by American Locomotive Co.

Ultimate complete Dieselization of the O.N.R. has been provided in principle, but no exact time can be set as to when the programme will be completed. A good deal will depend on conditions as they develop, but under normal conditions it is to be anticipated that the programme will be completed by 1955.

Construction of a shop for Diesel-electric locomotive maintenance, at North Bay, is being proceeded with, the estimated cost of this facility being $800,000. The expectation is that construction will be completed by the end of 1951 or very early in 1952.

Illustrations of the two types of Diesels now in operation on the O.N.R. are presented herewith.



O.N.R. 1,500 H.P. Diesel-electric Road Switcher, One of Four Supplied by Montreal Locomotive Works, Ltd.

Mainly about Railway People

Russell S. Allison, who was recently appointed Division Engineer, London Division, C.P.R., London, Ont., was born at Tichborne, Ont., June 1, 1924. He was educated at Tamworth Continuation School and Queen's University, obtaining his B.Sc. in May, 1946. His service with C.P.R. has been as follows:— May, 1945-August, 1945, junior transitman, London, Ont.; May, 1946-May, 1948, transitman, London; May, 1948-December, 1948, relieving roadmaster, Woodstock, Ont.; December, 1948-March 31, 1949, Assistant Engineer, Montreal; April, 1949, Assistant Roadmaster, Park Avenue Station, Montreal. Mr. Allison is a member of the Association of Professional Engineers of the Province of Ontario.

M. J. Barry, Superintendent, Winnipeg Terminals, C.P.R., since 1941, who retired recently on pension because of ill health, was with the company for 43 years. All his service was at Winnipeg except for four months during World War I when he was night yardmaster at Broadview, Sask. A practical railroader who started his career as a freight porter, and member of a railroading family, Mr. Barry planned the control tower and "intercom" system at Winnipeg Yards, which last year for the first time speeded up handling of the grain crop.

Albert E. Cook, whose appointment as Superintendent of Personnel and Departmental Accountant, T. H. and B. Ry., Hamilton, Ont., was recorded in our August issue, was born at Hamilton, January 19, 1894. He began his railway career, all at Hamilton, as a stenographer with the Grand Trunk Ry. in March, 1910, and in May of the same year took a similar position in the General Superintendent's Office of the T. H. and B. Ry. Subsequent appointments there were: 1911, stenographer, Purchasing Agent's Office; 1912, Assistant Timekeeper; 1913, Timekeeper; 1918, Accountant and Timekeeper; 1923, Accountant; 1941, Departmental Accountant.

Benjamin Chappell, B.Sc. (C.E.), whose appointment as Engineer, Maintenance of Way, C.N.R., Winnipeg, Man., was recorded in our June issue, was born at Port Arthur, Ont., June 8, 1903, and graduated from the University of Saskatchewan with his degree, 1927. He entered the company's service on July 2, 1923, as chainman, Regina, Sask., and, after serving as rodman, instrumentman and draftsman, became: 1940, Assistant Engineer, Saskatoon, Sask.; 1944, Division Engineer, Portage-Brandon Division, Winnipeg; 1945, Special Engineer, Winnipeg; 1946, Engineer of Track, Winnipeg; and, 1948, District Engineer, Manitoba District, Winnipeg. He is a member of the Engineering Institute of Canada and of the Association of Professional Engineers of Saskatchewan. He is the son of the late B. T. Chappell, formerly General Superintendent, Manitoba District, C.N.R.



J. Conrad,
District Engineer, Manitoba District, C.N.R., Winnipeg (see October issue, pg. 551).

N. F. Cowie, who was recently appointed Division Freight Agent, Manitoba District, C.P.R., Winnipeg, Man., was born in Aberdeen, Scotland, January 7, 1908, and entered the company's service, February 10, 1926, as clerk and stenographer. Subsequent to being rate clerk and agreed charges clerk, he was appointed, 1941, Assistant Chief Clerk, Montreal; 1945, District Freight Agent, Ottawa, 1948, Division Freight Agent, Quebec District, Montreal.



F. T. Jarvis,
Chief Clerk to Vice President, C.P.R., Montreal (see September issue, pg. 496).

Sidney Emberg, whose appointment as Chief Clerk to Freight Traffic Manager, Grand Trunk Western Rd.-C.N.R., Chicago, Ill., was recorded in our September issue, began his railway service in 1937 as a stenographer in the Freight Tariff Bureau at Chicago. In that city he became Secretary to the Freight Traffic Manager in 1946, Chief Clerk in the Foreign Freight Department in 1947, and General Clerk to the Freight Traffic Manager in 1949.

J. N. Fraine—It was stated in our October issue that Mr. Fraine had been appointed Assistant to Vice President, Quebec Central Ry. it should have been stated that the position to which he was appointed was Assistant to Vice President, C.P.R. Co., the error having arisen from the fact that he was formerly General Manager of the Q.C.R.

A. A. Gardiner, General Passenger Traffic Manager, C.N.R., addressed a luncheon meeting of Detroit Kiwanis



J. J. Raby,
Division Master Mechanic, Kenora Division, C.P.R. (see September issue, pg. 496).

No. 1 recently on the subject "Canadians Really Are Different". He said that it is in the political set-up that the greatest differences are to be found between Canada and the United States, and added:—"We are neither a republic, as you are proud to be, nor are we a colony, or a subject state, as we are often misunderstood to be. Canada is now a free, self-governing unit of the British Commonwealth, occupying a status equally as free and sovereign as Great Britain herself." Another major difference of Canada from the United States is that although the racial origins of the people of both countries is quite varied, Canadian culture has developed into two main groups, the English speaking and the French speaking, Mr. Gardiner said. Both the English and French languages have equal rights under the law of Canada and, as a result, the Province of Quebec has been able to retain its predominantly French character, which gives it such a charm for travellers from the United States.

One vitally important respect in which Canada and the United States stand together, Mr. Gardiner pointed out, is in the defence of freedom. He said "In each of the two wars that, optimistically, we considered in their turn would end war and bring about a reign of peace, our men have fought with yours all over the world. Now that our men serve with yours in the United Nations Forces and with our country standing with yours four-square against the common danger, we are proud and strong in the knowledge that we are not different."

H. C. Grout.—A separate article elsewhere in this issue records the recent death of Mr. Grout, and reviews his outstanding career in railway service.

J. D. Healy, who was recently appointed General Superintendent, Saskatchewan District, C.N.R., Saskatoon, Sask., was born January 25, 1888, and entered the company's service as yard clerk, Winnipeg, Man., in 1908. Qualifying as an operator the following year, he served at many points in the West and subsequently became: 1918, Local Freight Agent and Yardmaster, North Battleford, Sask.; 1922, Trainmaster, Drumheller, Alta.; 1923-1936, Assistant Superintendent, Hanna, Alta., and at other points in Alberta and Saskatchewan; 1936, Special Representative of the Vice President, Western Region, at Winnipeg; 1939, Superintendent, Prince Albert, Sask.; and, 1943, Superintendent, Regina.

William B. Jackson, B.Sc., whose appointment as Division Engineer, C.N.R., Cochrane, Ont., was recorded in our August issue, was born at Vancouver, B.C., September 11, 1920, and educated at Kitchener Public School, Kitsilano Jr. High School, Lord Byng and Magee high schools—all of Vancouver, B.C.—and at the University of British Columbia and the University of Alberta, graduating in 1945 with the B.Sc. in Civil Engineering. He began his career as sampler with the Amparo Gold Mines, Keithley Creek, B.C., in May, 1938, and in November of the same year joined C. B. Atkins, A.L.S., Edmonton, Alta., as chainman-draftsman. In 1940 he entered the service of Northern Alberta Rys. at Edmonton as chainman and from 1941 to 1943 was chainman, rodman, junior instrumentman and instrumentman. His employment with the C.N.R. began in 1945 as instrumentman on the St. Lawrence Division at Montreal, and he became Assistant Engineer there in August, 1946. He held this position subsequently at Montreal Terminals and on St. Jerome Division from November, 1946; on the Laurentian Division at Quebec, Que., from April, 1948; and on the Levis Division at Quebec from July, 1948. In October, 1948 he became Assistant Division Engineer on the Levis Division at Quebec. Mr. Jackson saw service in World War II with the R.C.E., rising from sapper to lieutenant. Among associations with which he has been or is connected are: Board of Trade, Montreal, Jr. Member, 1947-48; Board of Trade, Levis, Jr. Member, 1949-50; Professional Engineers of Quebec, Member, 1946; Engineering Institute of Canada, Jr. Member, 1943; and American Railway Engineering Association, Jr. Member, 1948.



G. E. Smith,
Freight Traffic Manager, Central Region, C.N.R., Toronto (see October issue, pg. 555).



The Canadian National Ry. Co. Board of Directors at a Recent Meeting at Company Headquarters at Montreal.
From left to right appear W. J. Parker, Winnipeg; R. B. Brenan, Saint John; Wilfrid Gagnon, Montreal; Donald Gordon, Chairman; H. J. Symington, Montreal; J. A. Northey, Toronto, and B. L. Daly, Montreal. This is the first photograph taken of the Board since Mr. Gordon became President of the system last January.

A. J. Medrow, whose appointment as Assistant General Freight Agent, Grand Trunk Western Rd.-C.N.R., Chicago, Ill., was recorded in our August issue, began his career as an office boy in 1920 and progressed through various positions in the Freight Department. Since 1943 he has been Chief of the Tariff Bureau.

William B. Salter, whose appointment as General Manager, T. H. and B. Ry., Hamilton, Ont., was recorded



J. R. Strother,
General Superintendent, New Brunswick District, C.P.R.

in our July issue, was born in New York City, July 5, 1906. He began his railway career in 1925 as clerk with the New York Central Rd. at New York City, later serving as Travelling Car Agent and Special Agent. He subsequently was appointed: 1936, Assistant Trainmaster, Buffalo, N.Y.; 1938, Trainmaster, St. Thomas, Ont., and from 1942, Kalamazoo, Mich.; 1944, Assistant Superintendent, Chicago, Ill., and from 1946, Blue Island, Ill.; 1946, Superintendent, St. Thomas, Ont. In 1948 he joined the T. H. and B. Ry. as Assistant General Manager at Hamilton, Ont. Among the many organizations with which Mr. Salter is associated are The Toronto Railway Club, The National Rifle Association of America, The Canadian Humane Society, The Hamilton Planning Board and The Mountain Access Commission.

J. R. Strother, whose appointment as General Superintendent, New Brunswick District, C.P.R., Saint John, N.B., was recorded in our October issue, is a native of Montreal and joined the company there in 1912. In 1934 he went to Winnipeg as Chief Clerk to the Vice President of Western Lines, and thereafter was appointed:— 1939-1942, Assistant Superintendent or acting Superintendent at Macleod, Bassano, Calgary and Medicine Hat, all in Alberta; 1942, Superintendent, Saskatoon, Sask; 1945 Superintendent, Edmonton, Alta. He is a first world war veteran.

T. M. Sutherland, whose appointment as Inspector, Investigation Department, C.P.R., Winnipeg, Man., was recorded in our September issue, is a native of Renfrewshire, Scotland, and has been 28 years with the C.P.R. at Winnipeg, Lethbridge, Alta., Vancouver and Kamloops, B.C., as an investigator. He was Master-at-Arms on the Empress of Japan for a year and served as Inspector at Fort William, Ont., for a year before moving to Moose Jaw, Sask., in the same capacity in 1945. He remained in charge of the Saskatchewan District until his recent transfer. Mr. Sutherland served with the 222nd Battalion, Canadian Army, from 1916 to 1919 during World War I.

Transportation Club Of Toronto

The Transportation Club of Toronto held its 1950 industrial dinner at the Royal York Hotel, Toronto, October 19, when the guest speaker was Col. O. H. Barrett, Assistant to President, Goodyear Tire and Rubber Co. of Canada, Ltd., G. E. Smith, Freight Traffic Manager, Central Region, C.N.R., is the Club President, and William G. Hamilton of, the C.P.R. Freight Claims Department, is Secretary. The Club' s annual general meeting and dinner are scheduled for December 7.

Preliminary Statistics Of Railways, 1949

The Dominion Bureau of Statistics, Public Finance and Transportation Division, has issued a preliminary report on statistics of steam railways for 1949, in which it is disclosed that the operating revenues of the Canadian railways collectively in that year achieved a new high record of $894,-397,264, an increase of about $18,565,-000, or 2.1%, over the previous high record recorded for 1948. However, operating expenses again outstripped the increase in revenues, having risen to a new record of $831,456,446, an increase of nearly $23,330,000, or 2.9%, over the 1948 operating expenses. As a result, the net operating revenue of the railways as a whole was reduced from $67,705,835 in 1948 to $62,-940,818. The 1949 net operating income was $30,558,818, a reduction of 7.9% from that earned in 1948. Also, the 1949 non-operating income, $39,-632,404, fell below that of 1948 by nearly $3 million. Interest payments on funded and unfunded debt were somewhat greater than in 1948, and all other non-operating expenses increased from $12,169,840 in 1948 to $15,948,905. Thus, there was another net corporate income deficit in 1949, and it was considerably larger than the one experienced in 1948, the increase in the deficit having been from less than $3 million in 1948 to nearly $12½ million in 1949. Sixteen of the 32 railways experienced deficits in 1949. The Canadian National, with an interest burden of over $46 million, had a 1949 deficit of over $42 million, a portion of this having been due to the addition of the Newfoundland lines, which had an operating deficit of over $2½ million, which was increased by the addition of taxes, interest and other charges.

Freight and Car Loadings

Railway revenue freight loadings in Canada in August were approximately 8,036,000 tons, compared with 9,313,000 tons in August, 1949, and with 9,771,000 tons in July this year. On the basis of monthly average loadings in the years 1935-1939 being taken as 100, the index number for railway revenue freight loadings in August this year was 168.5, compared with 195.2 in August last year, and with 213.7 in July this year.

Cars loaded with revenue freight on Canadian railways in August this year were approximately 275,000, compared with 351,000 in August last year and with 332,000 in July this year. The index number for car loadings in August this year was 124, compared with 158.4 in August last year and with 164.2 in July this year.

The decreases in the tonnage of freight loaded and in number of cars loaded in August this year were due to the strike of the railway non-operating employees in the concluding days of the month.

September Loadings

Railway revenue freight loadings in Canada in September were approximately 9,986,000 tons, compared with 10,077,000 tons in September last year, the index number for the loadings in September this year having been 165, compared with 166.5 in the 1949 month. Cars loaded with revenue freight on Canadian railways in September this year were approximately 363,000, the same number as in September last year; the index number for car loadings in September this year was 144.7 and for the car loadings in September last year, 144.5.

Loadings in Nine Months

Following is the record of the tonnage of railway revenue freight loaded in Canada in the first nine months of this year, and in the same part of preceding years back to and including 1943:— 1950, 78 500.000; 1949, 79.059,-000; 1948, 81,856,000; 1947, 79,087,000; 1946, 70,753,000; 1945, 77,592,000; 1944, 79,183,000; 1943, 73,154,000.

Cars loaded with revenue freight in the first nine months of this year, and in the same part of preceding years back to and including 1943, were:—1950, 2,837,000; 1949, 2,884,000; 1948, 2,986,000; 1947, 2.892,000; 1946, 2,676,000; 1945, 2,690,000; 1944, 2,727,-000; 1943, 2,539,000.

American Material Handling Society, Montreal Chapter

The formation of an organization in Montreal, with the name "Materials Handling Society", was recorded in our October issue, pg. 556. This organization has now become the Montreal Chapter of the American Material Handling Society, and advice of October 17 was that at that date it had 50 members, representing leading industries in the Montreal area. Officers have been installed as follows:— President, D. A. Gillespie; Vice President, L. J. Stock; Honorary President, Col. E. D. Elwood, M.B.E.; Secretary, J. G. Pope; Treasurer, W. G. Wilford. The President, Mr. Gillespie, and the Secretary, Mr. Pope, are associated

with Northern Electric Co. The directors, in addition to the foregoing, are Messrs. E. B. Jubien, William Sherman, M. S. Hayes, T. J. Christie and K. W. Grimsdale. Mr. Hayes is chairman of the programme committee; Mr. Grimsdale of the membership committee; Mr. Christie of the standards and education committee; Col. Elwood of the meetings committee; Mr. Sherman of the public relations committee, and Mr. Jubien of the advisory committee.

At a recent meeting of the organization, with about 100 representatives in attendance, Robert C. Brady, Director of Research, Material Handling Institute, Pittsburgh, Pa., presented an illustrated address, in which he emphasized the contribution made by new material handling methods in promoting good labor relations.

Members of the group are to make a tour of inspection of the Longue Pointe Ordnance Depot on November 14.

Wage Arbitration, Non-operating Employees

The railways and their non-operating employees having been unable to reach agreement as to the amount of wage increase to be awarded, the date for coming into effect of the 40-hour week, and various working conditions, the Government has appointed Mr. Justice Kellock of the Supreme Court of Canada as arbitrator to decide the matters at issue. Under the legislation passed by Parliament at its recent emergency session, the arbitrator is pretty well restricted as to his findings, as he is prohibited from awarding the employees anything less than the increase of four cents an hour which is already in effect; cannot delay the coming into effect of the 40-hour week longer than September 1, 1951, and must include the steamship and hotel employees within the terms of the settlement. At time of writing, October 25, preliminary discussions are scheduled to begin in Montreal on October 27.

Better Mail Pay For Railways

The Dominion Government has passed an order in council granting the railways an increase of 25.8% for the carriage of mail. This belated increase would appear to rank high under the heading of "too little and too late", as it represents only about half of what the railways applied for near the end of 1948, and leaves the railways still in the position of carrying the mails at a loss, as shown by detailed figures compiled by them. This is said to be the first increase in the railway mail rate since 1922. The railways sought legislation to change the jurisdiction over the railway mail rates from that of the Postmaster-General to the Board of Transport Commissioners for Canada, which certainly seems like a logical request, particularly in view of the fact that the rates covering the transportation of express matter (with the express service in direct competition with the parcel post service) are under the jurisdiction of the Board.

Express Service Experiment

One of the first of a series of experimental shipments carried out by the Canadian National Rys. Express Department, in an effort to develop new markets for smaller shipments of perishable goods, arrived in Central Station, Montreal, recently, aboard the "Scotian".

The tests, conducted by L. J. Oliver, Transportation Supervisor for C.N. Express Department, are being carried out throughout Canada with a new idea for the refrigeration of sections of an express car for less than carload shipments of such perishables as cut flowers, fish, yeast, fresh and cooked meats, and fruit.

This new method of shipping perishable commodities was developed by the company's own research experts, who are continually seeking new methods of providing improved services.

C.N.R. Construction Projects

Tenders, for mechanical and electrical trades separately, have been called by the C.N.R., receivable to November 7, covering an extension to the car shop at the C.N.R. Point St. Charles Shops, Montreal.—Tenders were received to October 13 for the construction of a reinforced concrete bridge over the railway tracks at Park Road, in Oshawa, Ont. — Tenders were received to October 17 for the construction of a subway at Jones Avenue, Toronto. The C.N.R. is to build another subway in Toronto, viz., on Dupont Street, west of Lansdowne Avenue, in the west end of the city.

Live Stock Rates

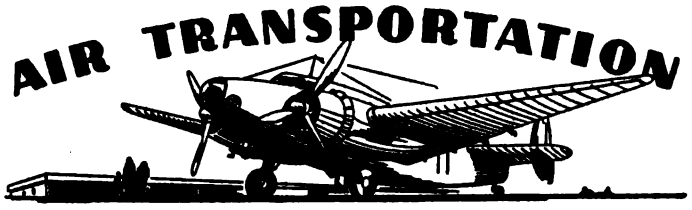
In regard to tariffs providing for increases in live stock rates which the railways had proposed making effective October 2, the Board of Transport Commissioners for Canada, on October 1, ordered postponement of the effective date of the new rates to December 15. In the meantime, the Board is conducting hearings in Calgary, Regina, Winnipeg and Ottawa, to receive submissions from the railways, provincial governments and farm representatives. The Canadian Federation of Agriculture and the Alberta and Saskatchewan governments had previously protested against the rate increases.

Railway Track Mileage Up

The following changes in single track mileage of Canadian railways in 1949 are reported by the Transportation Division of the Dominion Bureau of Statistics:—

Name of Railway and Location	Details: Change during Year (Increase +) (Decrease —)	
Canada and Gulf Terminal		
Mont Joli to Matane, Que.	— 1.90	Abandonment.
Canadian National Railways		
Newfoundland District	+705.13	Reported for first time.
Emerald Jct. to Borden, P.E.I.	+ 0.06	New line—extension.
Buctouche Jct. to Buctouche, N.B.	+ 0.01	Relocation.
Matapedia to Gaspe, Que.	+ 0.32	New main track wye.
Monk to West Jct., Que.	+ 0.79	Reclassification.
Joffre to North End Quebec Bridge	— 0.04	Correction.
M. 10.72 Sorel Sub to Bellevue Jct.	+ 0.01	Remeasurement in transfer from Levis Division to St. Lawrence Division.
Barraute to Beattyville	+ 39.08	New Line.
Pt. Robinson to M.O. 34 Thorold Sub	+ 0.34	Reclassification.
Winnipeg to Carman Jct.	— 0.01	Rearrangement.
Portage Jct. to St. Vital Spur	+ 0.01	Rearrangement.
Muir to McCreary Jct.	+ 0.05	Relocation.
Scapa to Spondin	— 0.01	Remeasurement.
Hawkesbury to Southyard Limit	— 0.18	Remeasurement.
Canadian Pacific Railway		
Line Owned		
Ottawa West to Chalk River	— 0.10	Correction.
Chalk River to Bonfield	— 0.50	Diversion.
Carman to Plum Coulee	+ 0.10	Correction.
Broadview to Swift Current	+ 0.60	Correction.
Exon to Shaunavon	+ 0.10	Correction.
Neudorf to Bulyea	— 0.10	Correction.
Stirling to Shaunavon	— 0.10	Correction.
Leased Lines:		
M. 1.7 Orford S.D. to Kingsbury	— 12.50	Abandonment.
Brookport to Megantic	+ 0.10	
Eganville to Payne	— 0.10	Correction.
Ontario Northland		
Owned Lines		
Englehart to Timmins	— 0.10	Rechainage.
Porquis to Cochrane, Ont.	+ 0.10	Rechainage.
Welsh to Iroquois Falls, Ont.	— 0.40	Rechainage.
Lines under Lease or Contract		
Swastika, Ont. to Noranda in Que.	+ 0.50	Rechainage.
Swastika, Ont. to Noranda in Ont.	— 0.70	Rechainage.
Morrissey, Fernie and Michel		
Fernie to Coal Creek	— 0.13	Adjustment.

A summary of additions and subtractions of single track miles in 1949 is as follows:—Reported for first time, 705.13 miles added; new lines, 39.46 miles added; abandonments, 14.4 miles subtracted; reclassification, 1.13 miles added; relocation 0.06 mile added; remeasurement, 0.78 mile subtracted; corrections in records, 0.46 mile added; diversion, 0.5 mile subtracted; adjustment, 0.13 mile subtracted; net change. 730.43 miles added, of which 705.13 miles is in Newfoundland.

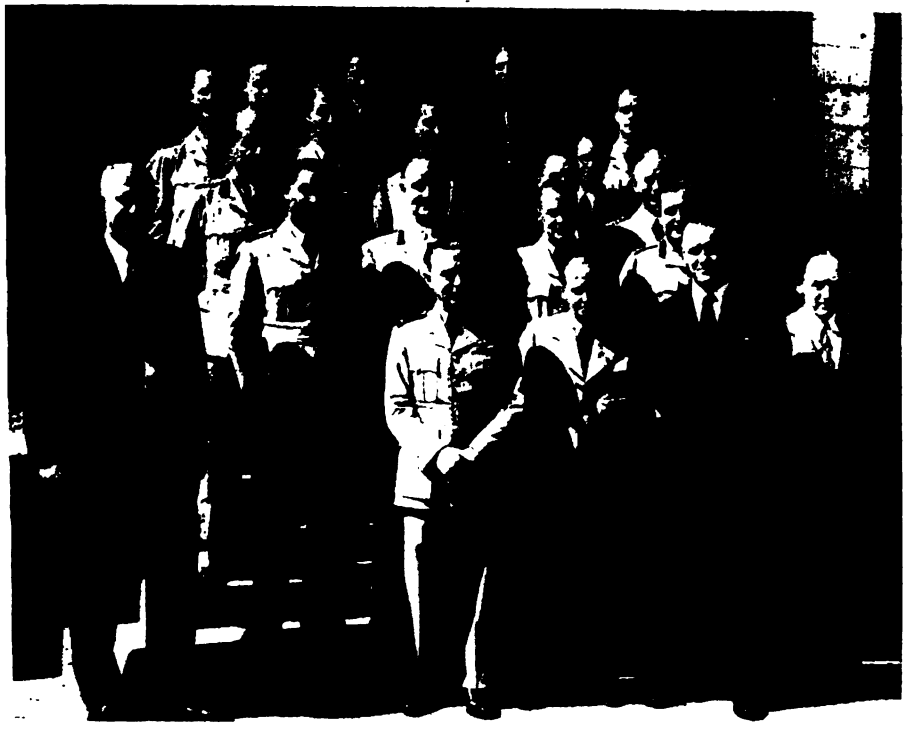


Imperial Defense College Visitors

On an extended tour of industrial and defense establishments throughout Canada and the United States, high ranking officers in training at the Imperial Defense College in England spent Monday, August 21, in Montreal, and visited the Canadair aircraft plants on the outskirts of the city. The visiting officers, together with a number of Canadair, Ltd., executives, are shown in an accompanying illustration.

The Imperial Defense College is one of the leading staff colleges in the world, and recruits its "students" from senior civil servants and the three services (Army, Navy, Air Force) throughout the British Commonwealth. Upon graduation these officers will return to their respective countries and services in senior command positions.

This group includes officers from India, Pakistan, Great Britain and New Zealand. Canadian officers at the school tour other parts of the Commonwealth.

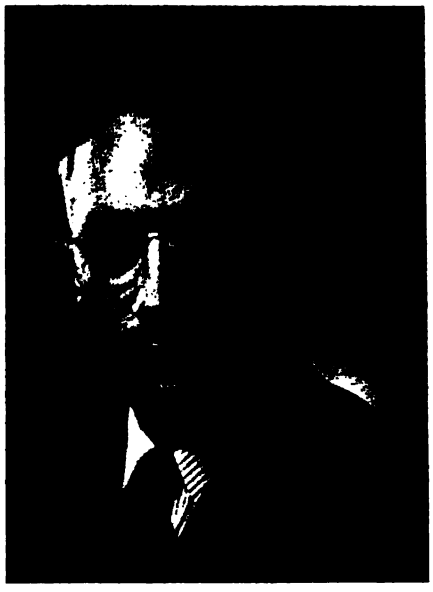


Officers in Training from the Imperial Defense College in England and Canadair, Ltd., Executives.

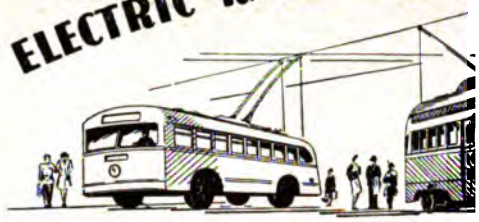
The photograph from which the above illustration was prepared was taken at the Canadair, Ltd., plant on the Montreal outskirts, on August 21, when high ranking officers in training at the Imperial Defense College visited the plant. In the front row of the group, from left to right, appear J. G. Notman, Executive Vice President, Canadair, Ltd.; Air Vice Marshal W. I. Dawson, C.B., C.B.E., D.S.O., Directing Staff of College; H. O. West, President, Canadair, Ltd., J. G. Ward, C.M.G., Directing Staff Officer of College, member of British Foreign Office; W. K. Ebel, Vice President, Engineering, Canadair, Ltd.

Air Transport People

H. J. Williamson has been appointed District Controller of Air Services, Department of Transport, with headquarters at Moncton, according to a joint announcement on September 28 by the Minister of Transport, Mr. Chevrier, and the Civil Service Commission. Mr. Williamson fills the vacancy caused through transfer of S. S. Foley, M.B.E., to the position of District Controller of Air Services for the Department at Toronto; Mr. Foley's appointment to his new position was recorded in our September issue, page 504, where his portrait appeared. Mr. Williamson was born at Regina, Sask., in 1909, and was only seven years old when his family returned to their former home in Saint John, N.B. Graduating from Saint John High School in 1926, he was awarded a Beaverbrook Scholarship to the University of New Brunswick, receiving his Bachelor of Science degree in Electrical Engineering in 1930. Prior to entering Government service in 1931, he was employed as a cable design engineer with the Northern Electric Co. in Montreal. He served with the Department of National Defence for a number of years in the installation of radio aids to air navigation. In 1937 he joined the Radio Division of the Department of Transport, serving in Western Canada in the early development of the transcontinental airway before appointment as District Radio Engineer at Toronto. During the planning and development of air services along the Northwest Staging Route, Mr. Williamson was transferred to Edmonton in 1941 to be in charge of construction, maintenance, and operations of radio aids to navigation, and established a communication system which greatly facilitated the construction of the Alaska Highway. He left Edmonton in 1949 to attend the National Defence College course at Kingston, Ontario. He is a Registered Professional Engineer, and a member of the Engineering Institute of Canada and of the Professional Institute of the Public Service of Canada.



H. J. Williamson,
District Controller of Air Services, Department of Transport, with headquarters at Moncton, N.B.



Transit Progress Day

The British Columbia Electric Ry. Co. observed Transit house" at the Oakridge Transit Center, in Vancouve behind the scenes of their transit service, the attra the company's transit story, and the traffic safety pic
Safety C

Among the many properties in North America which observed Transit Progress Day this year was the British Columbia Electric Ry. Co., which, on September 10, with ideal weather conditions prevailing, held open house at the Oakridge Transit Center in Vancouver.

Flags and steamers colorfully decked the center's administration building to give festive welcome to more than 10,000 people who came to see what went on behind the scenes of their public transit system.

Completed two years ago at cost of $1,500,000, the Oakridge Transit Center is something of a showplace. Built in the suburbs, it has 13½ acres of gleaming black parking apron for approximately 400 trolley coaches and gas motor buses. Its architecture is modern and functional and the entire layout is surrounded by ornamental shrubbery.

Today, the center is the administrative and maintenance heart of the company's $22,000,000 postwar transit system. Here, facilities were also set up to train upwards of 1,700 former motormen and conductors to drive the free-wheeling vehicles when the company moved to convert the transit system from "rails to rubber" at the war's end.

In the proceeding September 10, mart from two loudspeak Sunday crowds, wh movies and the equi spectators like a ma

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Left, an Exhibit at the B.C.E.R. Co. Oakridge Transit Center Arra New Traffic Control and Signal Equipment. Right, Some of the Oak the National Safety Counci



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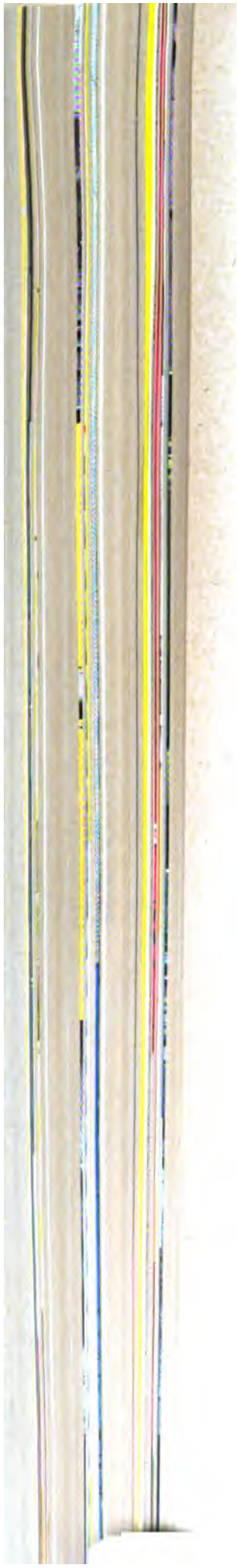
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Vancouver City Engineering Depart
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meet any demands made upon it, received the approval of the war programme committee, and was adopted by the Association directors. This resolution states as follows:—

"Whereas the evil forces of communism, in seeking to enslave the free peoples of the earth, have presented a deadly challenge to the American way of life which necessitates an all-out program of preparedness for defense and adjustment in our national economy, and

"Whereas, the local transit industry will inevitably have a vital place in that program, as it did in World War II, and recognizes its responsibility to be prepared therefor,

"Now, therefore, be it

"Resolved, that the American Transit Association, acting through the Board of Directors and War Program Committee, duly assembled at an emergency meeting in Chicago on this 19th day of September, 1950, does hereby dedicate itself and its constituent members to the great task which lies ahead; that it proceed promptly to the formulation of adequate plans to meet the local and suburban transportation needs of the armed and civilian forces and the general public; that it co-operate to the fullest extent with the federal, state and local governments in the development of their plans for national and civil defense; and that it pledges all of its managerial and material resources to the attainment of the foregoing objectives; and be it

"Further resolved, that copies of these resolutions be transmitted to the President of the United States, to the members of Congress, the governors of the various states and the mayors of the communities served; and to such of the governmental agencies as may be concerned herewith."

W. R. Pollard Emphasizes that the Importance of Transit Must Be Widely Publicized

Warren R. Pollard, President, Virginia Transit Co., who, as stated, is vice chairman of the War Programme Committee, representing the operating membership, stated at the meeting that the United States has dedicated itself to preparedness; to an expanding army, navy and air force, to the building up of a huge war machine and to the re-arming of Europe. He spoke of the gathering war clouds in the East and the possibility of the outbreak of a general conflagration, and said that with the war effort mounting daily, the transit industry before many weeks is liable to feel the pinch resulting from the armament programme. He then stated:—

"I think Transit will feel the pinch on manpower first, then a scarcity of vehicles, later perhaps a shortage of repair parts, and as the shortage of freight cars and shipping capacity becomes greater, there may be a squeeze on gasoline and rubber tires. All of these things will result from the present armament programme un-

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olden opportunity to impress upon ie public that transit is an essential art of the community life during dinary times, and that during a pe- od of war activity it is indispensable the war workers and necessary civil- n workers are to carry on their bs."

At the national level, Mr. Pollard aid, the Association must not over- ok the work of telling the transit tory to the newspaper columnists, the adio commentators and the maga- ine writers.

Concluding, he said:—"What I have utlined in a broad general way in his talk covers a lot of ground and ndicates a tremendous job yet to be one. A.T.A. will play a very vital art in furnishing industry-wide in- ormation and the skilled talent to repare much of the information we re to use at the local level. But .T.A. cannot do your job and my ob for us. Each of us in his own phere has a personal, important part n this overall job, and unless each of s bestirs himself, studies his situa- ion, and gets about the job now, we will have cause to regret our apathy many times over in the months to come. Each transit company, in each local community, has an all-important task to perform, and I urge each of you here and now to dedicate your- self to this task, and to go home with a firm determination to actively par- ticipate in the programme."

Mr. Middlekamp Pledges Co-operation of Manufacturers

In speaking at the Chicago meeting, John H. Middlekamp, Vice President, Mack-International Motor Truck Corp., and vice chairman of the war programme committee, representing manufacturers, recalled that the vital importance of the transit industry was not recognized by government agencies during the first part of the second world war, and that disaster was averted in the latter part of the war when the government agencies realized, almost too late, that the transit industry was playing a vital part in the war effort, and began to divert materials to the industry in sufficient quantity to keep it going. He said that such a risk cannot now be run, and that the industry must prepare in advance to meet its requirements. He advocated a two-pronged programme, viz., a plan designed to meet the requirements of partial mobilization, and one designed to meet the requirements of all-out mobilization. He pledged the co-operation of the manufacturers of transit equipment and materials in the development of such a programme and in informing the public and government agencies as to why the urban transit industry is indispensable in a successful war programme. He pointed to the fact that material shortages have already been noted, and to the further fact that as the preparedness programme accelerates, with demands for parts and equipment increasing, shortages will multiply. In concluding, he stated:—"As we all know, the things used to sustain city transit systems are obtained from many different industries. After the gross requirement of critical materials for various programmes are set aside in the central government material bank, it is divided among the specific industries and companies within these industries. These, in turn, supply you with the specific things you need.

"During World War II, for example, the War Production Board controlled production through an automotive division, an electrical division, a bearing division and so on. Among their many other duties, it was the direct responsibility of all of these divisions to keep the urban transit industry adequately supplied. In a period of mobilization, many divisions in both military and civilian agencies of the government are involved, directly or indirectly, in sanctioning the material essential for supporting transportation.

"We in the industry are aware of our vital role in a war programme. But our industry and its importance are not well known to the public and to various government agencies.

"To fulfill our national duty, we must inform the American people and all government mobilization agencies of what is actually involved. We must help them become aware that the urban transit industry is indispensable for a successful war programme. And we must tell them specifically what is needed to sustain our industry in case of mobilization.

"Only with this co-operation on our part can the many military and civilian agencies in Washington help us adequately serve the nation's war effort.

"The manufacturers of the American Transit Association want to assure you that we shall do everything in our power to help establish an approved urban transit war programme. To the extent that we are allotted materials and can preserve production facilities for your programme, we shall supply you with the necessary requirements when America calls upon you to take your posts in the national defense."

Defense Transport Administration Established

In a recent executive order by President Truman, Commissioner James K. Knudson of the Interstate Commerce Commission has been given responsibility for priorities and allocations with respect to domestic transport and storage in the U.S. defense programme. Mr. Knudson, on October 4, announced the establishment under his jurisdiction of the Defense Transport Administration, the agency which will carry out the functions assigned by the President in his executive order to Mr. Knudson as the member of the Interstate Commerce Commission having responsibility for the supervision of the Commission's Bureau of Service. Commissioner Knudson is ex officio the administrator of the Defense Transport Administration. The new agency administers and performs the priority, allocation and other functions vested in the Commission under the executive order with respect to domestic transportation, storage and port facilities, excluding air transport, pipelines, and coastwise, intercoastal and overseas shipping.

In announcing the establishment of the Defense Transport Administration, Mr. Knudson stated that at first the organization will have limited personnel, and said:—"It will be my purpose, in meeting problems arising in the area of my responsibility, to utilize the powers, facilities, and services of the Interstate Commerce Commission's Bureau of Service and such other agencies of the Commission as may be available. The work of the Defense Transport Administration will be complementary to that of the Commission and will eliminate the necessity for duplication of effort.

"Aside from certain problems that now exist, particularly in the freight car supply and manpower fields, it would appear that our primary efforts in the immediate future will have to be addressed to devising measures and programmes to meet the impact of the traffic burden that the defense production programme will impose upon the domestic facilities under my jurisdiction.

"I am confident that with the co-operation of carriers and shippers, operators and users of domestic storage and port facilities, and the interested government agencies, we can, by careful planning and programming, assure a supply of these facilities adequate to meet the needs of defense production and the maintenance of essential civilian economy."

Co-operation with Transit Promised

Mr. Knudson had been invited to attend the American Transit Association emergency conference in Chicago, but was prevented from doing so by pressure of work. However, near the end of the conference, Guy C. Hecker, the Association's Executive Manager, received a telegram from Mr. Knudson saying that the Association's general over-all co-operation in the defense transport effort will contribute greatly to its success, assuring that the transit phase of street and highway transportation will not be neglected, and adding:—"Only with the highest type of mutuality of effort and intent can we fully succeed in realizing our nation's aim of peace and liberty. The Defense Production Act requires consultation and advice through business advisory committees. Suggest you give attention to this item in formulating future contacts with Washington. Best wishes for successful meeting and an unimpaired future." Mr. Knudson's telegram also said:—"I am especially reassured in my ability to perform by the anticipated presence on my personnel staff of your Mr. Rainville." Mr. Rainville, who is Director of Research of the American Transit Association, has been appointed Executive Assistant to Mr. Knudson. Since April, 1948, Mr. Rainville

has been serving as a consultant to several agencies of the U.S. Government with reference to the preparation of plans for mobilization of the country's transportation system in the event of a national emergency. He was with the office of Defense Transportation until that agency's affairs were wound up on June 30, 1949, following which he served with the transportation office of the National Security Resources Board.

Address by the Retiring President, Morris Edwards

The retiring President of the Association, Morris Edwards, President, Cincinnati Street Ry. Co., gave a very comprehensive presidential address, and emphasized that while with the aid of the Association's war programme committee a determination is being arrived at as to the industry's requirements, the individual transit properties and their officers must take prompt action, to make the war programme committee's recommendations, and the Association's decisions, of real value. He stated as in the following.

Grave events, casting before them the shadow of possibly greater events to come, bring us together in emergency session. The emergency is real. It is a time of national crisis. The crisis well may prove to be the most formidable in American history. It must be faced—**now.**

Under the circumstances, it is in order to cut short the usual discussion of the affairs of the Association, which will be covered in the printed report of the Executive Manager, and instead to direct these remarks to the industry-wide questions of policy and action which are the reasons for our meeting.

In so doing, I am endeavoring to speak not as an individual but as a spokesman for the Officers, the Executive Committee, the Board of Directors and the experienced executives of the industry who comprise the War Program Committee. Our debt to these men is heavy indeed. They have responded to every call. They have been parties to every discussion. They willingly have shared the responsibility for every major decision.

The Korean War Plus Rearmament. —The Korean War is the hard core of fact from which all else stems. Whether it is to remain an isolated police action or is to be the forerunner of World War III is unknowable, shrouded in baffling haze of Russian intentions. That it compels the swiftest possible American effort toward military rearmament is a conclusion so obvious that it has been taken for granted by Americans of all walks of life. Official actions to speed rearmament have been questioned, not for their rightness nor for their cost, but for their slowness, their doubtful adequacy, and their dilution of high national purpose with the hope of business as usu practice of politics as usua

Even this immediate sit say nothing of the uncerta ther down the road, bri questions into sharp focus transit industry. As the rearmament are piled on t supply requirements of th campaign, military purpo claim a steadily increasing our national resources of n and industrial productive What level of public neces our industry be called upon Will it be to haul the 1 revenue passengers whom carry this year? Or perhap billion which would come wit full-scale industrial product employment? Or the 21 billio would come with shortages o ening delays in supply of fuel and replacement parts for automobiles? Or the 24 billio would come with even n rationing of essential supp private vehicles? Or the still number which would com period of severest strain—fro tional policy of transporting p urban communities by the systems which make the mos omical and efficient use o supplies?

The Essentiality of Tran each such level, it is possible to the minimum requirements transit industry in terms o vehicles, fuels, rubber, and pa supplies for maintenance and r ment. Those calculations, as you are now being made. The prep of such estimates of minimu quirements, however, is perha least part of the task. A more d part is to make sure that, f existing or prospective level of s the supplies are going into the p tion end of the transit pipeline i quate quantity and in sufficien to come out when needed at t end. The question of whethe necessary things will be done i is the immediate anxiety of e enced transit executives. They how grudgingly and tardily minimum needs were recognize how inadequately they were n World War II. Though justly of the industry's job of virtually ing bricks without straw from to 1946, they realize how razo were the margins of manp vehicles and materials by whic industry escaped falling down obligations of public service. public service? Not merely the service for public convenience, the more vital service of moving and women to and from the furnaces, the artillery forges, the yards, the tank arsenals, the air plants and the A-bomb laborat upon the output of which hung hopes of victory of America and allies and the hope of survival of in combat.

ransit industry must be built up, oth in vehicles and maintenance aterials, during a period of rearmaent. Otherwise it certainly would ot be equal to that job if it ever hould materialize.

The other proposition, which as yet annot be visualized more than in dim utline, is the role which public tranit would have to play, because it lone could play it, in any form of arge-scale civilian evacuation of rowded city areas. This relates not nly to the staggering problems which vould follow the dropping of an A-omb or a saturation bombing with igh explosive and incendiary bombs, ut to the more manageable problems vhich would arise from a decision by nilitary authorities to move nonombatant and non-productive inhabiants from prime target areas.

When we realize how returning veek-enders nearly paralyze the raffic flow on the Long Island parkvays, and how Christmas shoppers nearly immobilize downtown traffic n almost every American city, little magination is required to perceive the opeless limitations of the private utomobile and the almost perfect vailability of the large-capacity bus n any situation calling for mass novement of people away from a city. Such a contingency demands not only well-equipped transit fleet as a miliary necessity, but also plans for its ffective use far more perfected than ny which exist today.

Unfortunately the prime significance f transit facilities in either a period f rearmament when labor and materals must be frugally husbanded to neet military needs or in a period f actual war when strains and tenions are multiplied many times over loes not seem to be generally recogized. The lack of understanding of he essentiality and functions of tranit service is almost a blind spot in ur thinking and planning for either reparedness or war. The average merican instinctively knows, for xample, that railroads are indispensble for the movement of troops, eapons and materials, and that they ave to have rails, motive power and olling stock to keep moving. He nows that telephone and telegraph ommunications are a prime military ecessity, and that those industries ave to have many critical materials o keep messages moving over their ires. He knows that pipelines are he best means for the large-scale ovement of petroleum and natural as, and that they rightly are given he enormous quantities of steel required for their construction. But does e realize that transit is an equally ital facility for the movement of eople and that its minimum claims or materials are fully on a par with he claims of these other essential ndustries? After all, people must ove before the work of war can egin, and they must keep on moving efore the work of war can be nished.

The Industry's Improved Physical Condition.—While the adequacy of transit service during an emergency period will be relative to the demands upon it, one clearly established fact is that the industry is in stronger position to enter upon its emergency duties now than it was in 1941. Of the approximately 90,000 transit vehicles now in service, nearly one-third are new within the past three years, whereas no more than one-sixth were new within three years in 1941. Furthermore, nearly two-thirds of the present vehicles are self-propelled and are capable of operating over any route, whereas that was true of less than half of the vehicles of 1941. That improvement in average fleet condition and that marked increase in mobility will prove to be significant military assets in event of need.

It is only natural that the physical problems of operation and maintenance in an emergency period should claim our first attention, but it is quite possible that certain economic aspects of such a period will prove to be more formidable and harder to solve in the long run. The application to this industry in its present condition of the wage and price controls and the proposed excess profits tax already taking form could pry the lid from a veritable Pandora's box of mischief. These questions call for searching study and, once policy has been determined, the most diligent attention and energetic action.

But Its Poorer Financial Condition.—Any consideration of these matters must start from the facts of the industry's precarious financial position as of the start of the Korean War, which certainly has been further aggravated by the swiftly inflationary forces set in motion by the war itself in the areas of wages and commodity prices.

As of the spring of 1950, the industry's earnings for three years had been at or below 4½% of gross income, and at or below 1½% of invested capital. The income yielded by slowly increasing rates of fares for three years had lagged dangerously behind rapidly increasing costs of wages, equipment and materials. Inadequate earnings had virtually barred access to long-term investment capital. Short-term debt represented by equipment purchases on the installment plan had risen sharply. Depreciation accruals on former low-cost equipment worn out during World War II had covered barely more than 50% of the high cost of post-war replacements on a unit-for-unit basis. The number of revenue passengers had declined from 23 billion in 1946 to 19 billion in 1949 and probably to 17 billion in 1950, a cumulative loss of more than 25% in four years. Within this industry-wide framework, it is common knowledge that each of these adverse factors had taken a heavier toll on the large-city systems than on those in smaller communities.

The Toll Taken by Government.—It must be noted in passing that most of the more perplexing difficulties of the post-war period stemmed directly from World War II, the ill-advised forms of controls and excess profits taxes generally imposed during that war, and the highly inflationary policies of the government during the post-war years. A substantial part of greatly increased labor costs, which the industry plainly could not afford, was traceable to the war-time granting and post-war continuance of so-called "fringe benefits" which had to be resorted to because they were permissible under wage controls whereas justifiable increases in direct compensation of workers were either prohibited or were buried under bales of red tape.

A very large part of the inadequacy of the industry's war-end reserves to finance replacements of equipment and facilities was directly attributable to grave fallacies in the application of general war-time tax laws to the peculiar facts of this particular industry. These laws failed to recognize accelerated depreciation of equipment during a period when it was overworked and could not be satisfactorily maintained. Furthermore, the definitions of normal earnings, invested capital and excess profits were so ill-suited to this industry that far too large a part of what were truly normal and moderate earnings was arbitarily exposed to taxation as excess profits at confiscatory rates. It can be well argued that, even if no other adverse economic factor had complicated the industry's post-war picture, these two hammer blows of the war-tax gatherer would have been sufficient alone to bring the industry to its financial knees.

Finally, in this connection, the impact upon the transit industry of post-war governmental policies in the economic field scarcely could have been more unfortunate. While the political arm of government was piling on gigantic overnight increases in wages and other costs, the regulatory arm was taking months or years to ponder over rate cases and then giving the compensating increases of income far too tardily as to time and far too inadequately as to amount. This vicious "Squeeze" bled millions of dollars of working capital blood from a patient already anemic from the blood-letting of excessive war taxes.

Not alone in the interest of this industry and its stockholders and employees, not alone in the interest of simple justice and common fairness, but in the highest national interest of a nation which will have to rely increasingly on this industry's strength and stamina before this crisis is over, these costly mistakes must not be repeated.

From careful study of these aspects of the economics of World War II, it should not be too difficult to determine the directions in which we now should strive to bring the cold economics into harmony with the physical facts of this new emergency.

A Wage Plan.—As to wages, both in the governmental set-ups, policies and regulations now in process of creation and in the negotiations of our own contracts, we should seek to freeze basic relationships at a fair pre-war level, frankly make justified war-time adjustments on a temporary, flexible basis related to the cost of living, and then let the whole position revert automatically to its pre-war status, for a fresh start at bargaining under the conditions which then will exist when the war is over. Let's have no more of the political expediency, the saying of one thing and the doing of another, which marked Washington's improvised handling of wage questions in World War II and which created wasteful strife that never needed to occur. If labor is given a sense of its receiving fair treatment under the turbulent conditions of an emergency period, I predict that labor will be a full and willing partner on the national team in any crisis that may come.

Get Fares Up.—As to the price of our service, on the assumption that it will continue to be controlled by customary regulatory processes rather than by some emergency price control set-up in Washington, we should seek immediately to place rates of fare at a level at least adequate, if not frankly a little more than adequate, to meet present and prospective levels of cost. We should try right now, and in one operation, to catch up this destructive time lag between cost increases and revenue increases. If the American economy ever can stand a transit fare adequate to yield an investment return sufficient to attract needed investment capital, that time is now. Furthermore, this is the one time when regulatory bodies need have no apprehension lest they approve a rate of fare which might prove excessive, for certainly any excess increment of income over all proper costs will not unduly enrich the transit operator but will be siphoned off by war taxes.

A Change of Tax Basis.—As to taxes, which can be the difference between our having and our not having a chance of survival as a private industry after this emergency, our Tax Advisory Committee should present the industry's peculiar tax problems to the Treasury officials and the congressionl committees in a determined effort to have them comprehended in the laws and regulations of excess profits taxes. Many technical questions doubtless will be involved in developing a tax basis which will be fair but not preferential, but at least two which demand correction are the need for recognition of accelerated depreciation a
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October 13, Mr. Curtis reported on the proceedings at the meeting of the special taxation committee on September 22. After discussion, it was decided to instruct the special taxation committee to prepare a brief for presentation to a sub-committee of the executive not later than November 30. Also, the sub-committee of the executive was empowered to make any representations deemed advisable to the Dominion Government.

Progress in Toronto Subway Construction

The excavation, and demolition of buildings, in connection with the construction of the subway along the line of Yonge Street, Toronto's main north-south thoroughfare, are proceeding steadily northward, and excellent progress in the work is being made.

Excellent progress continues to be made by the Toronto Transportation Commission and its contractors on the construction of the first part of Toronto's future rapid transit system, viz., the subway extending northerly along the line of Yonge Street from Front Street, near the foot of Yonge Street, to Eglinton Avenue, with a short extension westerly from Yonge Street, along the line of Front Street, to the Union Station.

Before detailing progress on the work to a recent date, it would be well to review the sections into which the work is divided, and the contracts which were awarded to cover the work on such sections.



The Path of Building Demolition, East of Yonge Street, As Seen Looking South

Globe and Mail Photo.

Contract S-1 covers the work extending from Front Street, just east of York Street, to approximately midway between Richmond Street and Queen Street. Contract S-2 covers the work from there to the north street line of College Street, and contract S-2A covers the work from the north street line of College Street to the north street line of Alexander Street.

The foregoing contracts were the first awarded, and went to a syndicate headed by a Toronto contracting firm, viz., C. A. Pitts, General Contractor, Ltd., with which company are associated three United States contractors, viz., the Arthur A. Johnson Corp., Long Island City, New York; Johnson, Drake and Piper, Inc., Minneapolis and New York, and B. Perini and Sons, Inc., Framingham, Mass.

Contracts covering the next three sections were awarded Rayner Construction, Ltd., Toronto, these being as follows:—Contract S-3, from the north street line of Alexander Street to Severn Street; contract S-4, from Severn Street to the south street line of Pleasant Boulevard; contract S-5, from the south street line of Pleasant Boulevard crossing Yonge Street diagonally at Heath Street to a point on the west side of Yonge Street approximately opposite the entrance to Mount Pleasant Cemetery.

Only two more contracts remain to carry the work to the northern terminus at Eglinton Avenue, viz., contract S-5A, from a point approximately opposite the entrance to Mount Pleasant Cemetery to the south street line of Imperial Street, and contract S-6, from the south street line of Imperial Street to Eglinton Avenue.

As explained previously, the new rapid transit line will not be built wholly underground, as some sections of it will be in open cut. From the southern terminus at the Union Station to a point a little north of Bloor Street, the line is in subway built by the cut and cover method, following which there is a section of open cut to within a short distance south of the C.P.R. North Toronto line. There is then subway for a short distance, under the C.P.R. North Toronto line, followed by a section of open cut to near St. Clair Avenue. The line will then be in subway to carry it across Yonge Street, following which is to be a long open cut section nearly to the terminus at Eglinton Avenue.

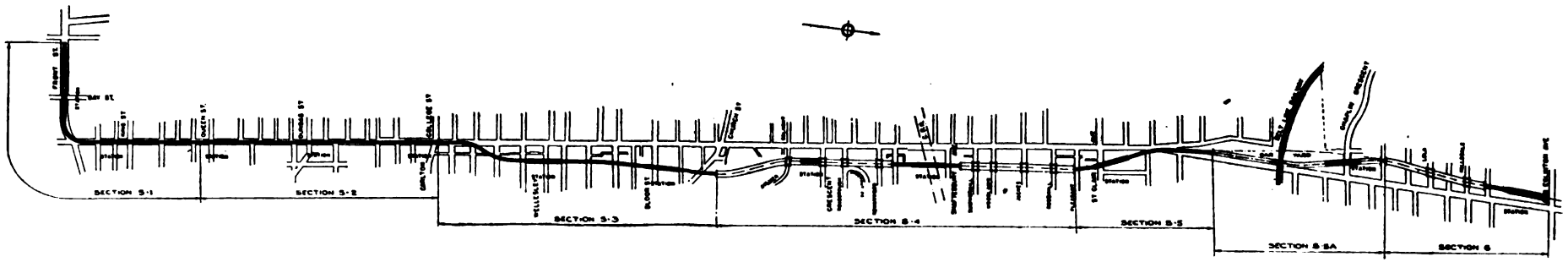
Following is an official statement on the progress of the work to October 19.

Contract S-1.—On this contract, the intermediate lift work had been completed, and the bottom lift had been completed for a distance of over 200 ft. on Front Street and on Yonge Street northerly to King Street. Over 75% of the entire excavation work on the contract had been completed. Approximately 500 ft. of invert slab had been poured on Yonge Street between Yonge Street and King Street, as well as 200 ft. of wall and 40 ft. of roof slab.

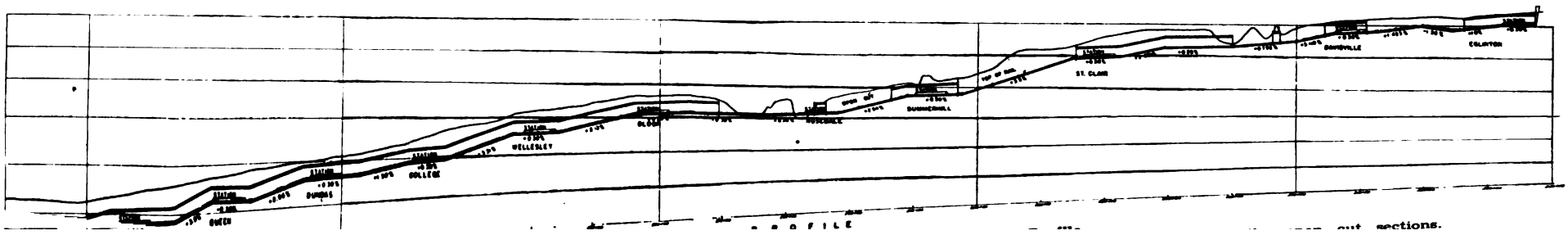
Contract S-2.—On this contract, temporary decking had been completed from the south end of the section to the north side of Elm Street, and on October 19 the work was in progress north to Gerrard Street. The top lift excavation had been completed to Gerrard Street, and the road surface had been stripped to the south side of Carlton Street. Excavation had been completed for a ramp at Gould Street, to allow for removal of the intermediate and bottom lift excavation in this area. Roof sections had been completed from Albert Street to Teraulay Street inclusive, about 800 ft. Waterproofing of the walls and laying of a three-inch concrete protective covering over the roof was completed from Shuter Street to Teraulay Street, and this was being backfilled to a depth of five feet. Only one section of wall remained to be poured in the Queen Street station area.

Contract S-2A.—The work of underpinning 18 of the 22 buildings to be underpinned in this area had been completed.

Contract S-3.—Piles had been driven as far north as the south street line of Isabella Street. The intermediate lift excavation had been completed from the south side of Maitland Street to north of Wellesley Street. A temporary bridge was placed across the subway excavation at Dundonald Street. A large portion of the work on this contract consists of the construction of a 21 in. sewer between Alexander and Maitland Streets and



PLAN



PROFILE

...out sections.

a 24 in. sewer north of Gloucester Street.

Contract S-4.—A large portion of the work on this contract consists of excavation for the open cut north from Severn Street to Crescent Road, this being the first location from the south where the subway actually becomes open cut structure. Also, the top lift excavation had been started working north from Rosehill Avenue.

Contract S-5.—With the completion under the Yonge Street surface, and north of that point, the subway right of way is about 150 ft. east of the line of Yonge Street, extending thus between Alexander Street and St. Clair Avenue. The line crosses to the west side of Yonge Street a short distance above St. Clair Avenue, and stays west of Yonge Street to the north terminus at Eglinton Avenue. Three general types of construction are being employed on this off street right of driven at 6 ft. intervals and cross braces are put in place. Excavation then proceeds, and planks are placed horizontally between the piles to support the earth at the sides. Adjacent buildings are underpinned. The excavation is carried to the required depth for the subway structure. The reinforced concrete floor, walls and roof of the subway are poured, following which the piles are cut off and the space for the roof of the subway bridges resting on piling, with concrete retaining walls at the bridge ends holding the backfill under the roadway at the approaches.

On the underground portions of the route, where the subway passes under buildings, great care is being taken in supporting such structures. Concrete underpinning is first placed under the building foundations, following which the cellar floor is removed and the excavation carried down for

secure a secretary for the Association to succeed Mr. Neild. Under date of November 1, Mr. Empringham addressed a communication to all operating and associate member companies of the Association, stating, on behalf of the executive committ
King, Director of Persor
Transportation Commissi
appointed Secretary of
tion, effective November
sion to Mr. Neild.

Mainly about Transit Peop

John Y. Doran, previously Assistant Engineer in the Electrical Department, Toronto Transportation Commission, has been appointed Electrical Engineer for the Commission, succeeding J. F. Neild, retired. Mr. Doran graduated from the University of Toronto in electrical engineering in 1922, following which he entered T.T.C. service as a clerk in the overhead section of the Electrical Department. In 1923 he became a draftsman in that department, and in 1936 was promoted to junior engineer, and in 1937, to assistant engineer. He has served actively on various committees of the American Transit Association during recent years, and is now chairman of a committee for the study of design and maintenance of electrical facilities for subway operation.



John Y. Doran,
Electrical Engineer, Toronto Transportation Commission

James F. Neild, who has retired from the position of Electrical Engineer, Toronto Transportation Commission, and also from that of Secretary, Canadian Transit Association, was born at Brockville, Ont., October 17, 1880. In 1900, he was employed on construction work by Dick Kerr Co., and from 1901 to 1904 was with British Thomson Houston Co., at various places in Great Britain and on the European Continent, his subsequent appointments having been:— 1904, Superintendent, Electrical Equipment, Sheffield Corporation Tramways, Sheffield, England; 1905, Chief Engineer, Ayr Corporation Tramways, Ayr, Scotland; 1907, Electrolysis Engineer, Toronto Ry. Co.; 1909 Superintendent, Overhead Lines and Power, Toronto Ry. Co.; 1914, Su
of Power, Toronto Ry. C
to Electric Light Co.; 19
Engineer, Toronto T
Commission. He has bee
the Canadian Transit A
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cal Planning Board, a
President, Toronto Rail
is a fellow of the Amer
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eering Association, and I
of the Toronto Electric

Transit Revenues, Expenses, Etc.

Calgary Transit S

July:—	1950
Revenue	$ 170,07
Expenditure	135,79
Operation surplus	34,27
Total surplus *	3
Revenue passengers	2,372
Jan. 1 - July 31:—	
Revenue	$1,204,99
Expenditure	919,27
Total surplus	44,81
August:—	
Revenue	$ 153,41
Expenditure	144,94
Operation surplus	8,46
Total surplus	*25,01
Revenue passengers	2,236
Jan. 1—August 31:—	
Revenue	$1,358,41
Expenditure	1,064,22
Total surplus	19,8

*Deficit

Edmonton Transit

July:—	1950
Revenue	$ 207,7
Expenditure	168,5
Operation surplus	39,1
Total surplus *	7,6
Revenue passengers	2,79



James F. N
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Canadian Transit

Canadian Transit Activity Reviewed

Decreases in April this year in both urban and interurban transit traffic were followed by further decreases in May, the decrease from May, 1949, in urban traffic having been one of 2%, and in interurban traffic, one of 10%. Riding was affected adversely by flood conditions in Manitoba, while traffic was considerably lighter in the month this year in Quebec and British Columbia.

The number of revenue passengers carried by transit properties in Canada, in urban service, decreased from 126,021,135 in May, 1949, to 123,375,123 in that month this year, or by 2%, while the number carried in interurban service was down from 9,402,330 in May, 1949, to 8,462,222 in May this year, or by 10%, with the result that there was a decrease of approximately 3,586,000 passengers in total traffic in May this year, compared with the 1949 month, a decrease of 2.6%. Business was no doubt affected adversely by flood conditions in Manitoba, in addition to which traffic was down considerably in May this year, compared with that of the 1949 month, in British Columbia and Quebec. Urban traffic declined in all provinces in May this year, except Ontario, Alberta and Prince Edward Island, and Alberta and Prince Edward Island were the only provinces in which there was an increase in interurban traffic in May this year. However, passengers carried in interprovincial bus service increased from 67,650 in May last year to 77,707 in the month this year, or by nearly 15%.

Of the total of 123,375,123 passengers carried in urban service in May this year, 59,642,581 were carried by electric railway car, 15,869,489 by trolley coach, 47,797,133 by motor bus, and 65,920 by chartered vehicle. In May last year, passengers carried in urban service by electric railway car totalled 65,412,623, while passengers carried by trolley coach totalled 12,859,592. There is thus seen a continuation of the trend wherein electric railway traffic has been decreasing while trolley coach patronage has been increasing. Passengers carried by motor bus in urban service were about 200,000 more in May this year than in the 1949 month.

Of the total of 8,462,222 passengers handled in interurban service in May this year, 1,240,531 were carried by electric railway car, 6,809, 286 by motor bus and 412,405 by chartered vehicle. In May last year, in interurban service, there were 1,357,995 passengers carried by electric railway car and 7,702,406 by motor bus. It is thus seen that there were decreases as concerns both electric railway and motor bus passengers in interurban service in May this year.

Despite the decrease in urban traffic in May this year, the gross earnings from urban service were greater in that month than in the 1949 month, the increase having been from $8,312,060 in May last year to $9,037,673. This increase in revenue, in the face of decreased traffic, was due, of course, to fare increases made effective over the one-year interval. However, the fare increases made effective in interurban service were not sufficiently large to counterbalance the decrease in interurban traffic in May this year, compared with that in the 1949 month, with the result that the interurban service revenue decreased from $3,570,818 in May, 1949, to $3,338,324 in the month this year. The urban revenue gains were principally in Quebec, Ontario and British Columbia. All provinces reported reduced interurban receipts, but the earnings from interprovincial bus traffic increased from $104,556 in May last year to $122,598.

In Ontario, the urban service revenue of the transit properties increased from $3,350,217 in May, 1949, to $3,489,447 in May this year. By a remarkable coincidence, the inter-

Record of Transit Activity in Canada, May, 1950
(with Many Comparative Figures for May, 1949)

Kind of Vehicle	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Inter-Provincial	Canada
Number of Passengers Carried—Urban Service											
Electric Car				22,732,806	28,886,391	2,755,155	1,426,686	822,864	3,018,679		59,642,581
Trolley Coach		2,229,612		1,350,379	3,492,493	2,237,940	298,225	3,397,778	2,863,062		15,869,489
Motor Bus		1,147,213	2,168,283	14,165,401	20,726,750	1,976,426	393,934	1,520,242	5,698,884		47,797,133
Chartered[2]		1,669	518	21,269	35,145	6,915			404		65,920
Total—1950		3,378,494	2,168,801	38,269,855	53,140,779	6,976,436	2,118,845	5,740,884	11,581,029		123,375,123
Total—1949x		3,355,444	2,193,762	[3]40,707,392	51,582,467	7,808,956	2,127,265	5,440,248	12,805,601		[3]126,021,135
Number of Passengers Carried—Interurban Service											
Electric Car				495,523	134,487				610,521		1,240,531
Motor Bus	21,376	289,320	316,997	1,896,666	2,670,842	313,274	93,994	258,612	870,498	77,707	6,809,286
Chartered[2]	600	2,838	858	86,275	207,929	1,956	25	213	21,711		412,405
Total—1950	21,976	292,158	317,855	2,478,464	3,103,258	315,230	94,019	258,825	1,502,730	77,707	8,462,222
Total—1949x	16,977	319,870	357,179	[3]2,589,278	3,648,694	375,872	111,545	246,967	1,668,298	67,650	[3]9,402,330
Revenue $											
Urban—1950		265,910	115,047	2,937,320	3,489,447	561,123	128,311	388,052	1,151,463		9,037,673
Urban—1949x		274,227	120,182	[3]2,446,832	3,350,217	554,755	128,174	371,025	1,066,648		[3]8,312,060
Interurban—1950	11,519	120,084	117,391	791,568	1,294,452	112,004	112,726	209,315	515,818	122,598	3,338,324
Interurban—1949x	12,707	137,227	119,412	[3]810,349	1,294,452	154,588	119,359	214,822	603,346	104,556	[3]3,570,818
Vehicle Miles Run—Urban Service											
Electric Car				2,730,541	3,369,750	351,842	84,165	115,139	526,867		7,178,304
Trolley Coach		228,729		163,570	433,133	303,074	106,990	444,657	537,003		2,217,156
Motor Bus		320,302	326,571	2,328,464	3,785,193	442,229	124,638	293,968	1,471,071		9,092,436
Chartered[1]		1,256	174	16,409	34,988	9,958	239	4,021	1,888		68,933
Total—1950		550,287	326,745	5,238,984	7,623,064	1,107,103	316,032	857,785	2,536,829		18,556,829
Total—1949x		561,220	310,444	[3]5,184,559	7,329,955	1,275,552	307,408	853,421	2,538,462		[3]18,361,021
Vehicle Miles Run—Interurban Service											
Electric Car				137,981	125,644				234,126		497,751
Motor Bus	44,402	399,944	402,497	1,715,103	2,865,637	326,405	426,441	544,142	1,111,667	305,222	8,141,460
Chartered[1]	478	5,386	4,883	92,836	224,922	7,206	15	3,264	35,552		374,542
Total—1950	44,880	405,330	407,380	1,945,920	3,216,203	333,611	426,456	547,406	1,381,345	305,222	9,013,753
Total—1949x	41,255	483,297	379,279	[3]2,023,045	3,445,169	494,322	380,561	535,511	1,451,576	254,840	[3]9,488,855
Fuel Consumed—Gallons											
Gasoline—Urban—1950		52,295	22,957	456,239	715,188	95,620	22,570	60,955	288,793		1,704,617
Gasoline—Urban—1949x		57,383	22,814	[3]427,388	671,222	105,322	26,850	42,131	296,773		[3]1,649,883
Gasoline—Interurban 1950	7,276	57,474	37,623	268,344	496,774	58,274	71,839	92,543	184,846	37,039	1,312,032
Gasoline Interurban 1949x	7,253	72,454	38,732	[3]278,026	536,446	77,444	63,488	86,648	194,828	30,012	[3]1,385,331
Diesel Oil—1950		2,308	53,266	78,228	69,504			2,345	6,522	10,672	222,845
Diesel Oil—1949x		1,542	47,889	82,119	63,011			6,543	6,585	8,532	216,221

x1949 Data are revsed.
[1]Includes miles run by all classes of vehicles in chartered service.
[2]The number of passengers carried in chartered service is only approximate, as exact counts are not made for all trips.
[3]1949 Statistics for Quebec Carriers failing to report in 1950 are shown below. These are excluded above from the 1949 totals for Quebec and Canada.

	Bus Miles	Passengers Carried	Revenue $	Fuel Consumed—Gal.
Quebec—Urban				
Quebec—Interurban	113,685	128,032	37,408	23,507

urban service revenue was exactly the same in May this year as in the month last year, at $1,294,452. The Quebec urban service revenue was up from $2,446,832 in May last year to $2,937,320 in the month this year, despite a reduction of from 40,707.392 to 38,269,855 in the number of passengers carried in urban service. The Quebec interurban service revenue decreased from $810,349 in May last year to $791,568. In British Columbia, despite a decrease in urban traffic, the urban service revenue increased from $1,066,648 in May, 1949, to $1,151,463 in May this year, but the interurban service revenue decreased from $603,346 in the 1949 month to $515,818.

Despite the reduction in passengers carried in urban service in May this year, in the whole country, there was actually an increase in the vehicle mileage operated, over that operated in the 1949 month, it having been from 18,361,021 in the month last year to 18,556,829. Of the total vehicle miles operated in May this year, 7,178,304 were made by electric railway car, 2,217,156 by trolley coach, 9,092,436 by motor bus and 68,933 by chartered vehicle. In May last year, there were 7,843,047 miles made by electric railway car in urban service, together with 1,660,630 miles by trolley coach. It is thus seen that the trend toward decreases in electric railway car mileage, and toward increase in trolley coach mileage, was continued through May this year.

Vehicle miles operated in interurban service in May this year totalled 9,013,753, compared with 9,488,855 in the month last year. The interurban vehicle mileage in May this year was made up of 497,751 miles operated by electric railway car, 8,14 bus and 374,542 by chai In May last year there electric railway car mi 273 motor bus miles mac ban service.

Gasoline consumption buses in urban service in 1,649, 883 gall. in May las 704,617 gall. in the mont while the gasoline cons transit buses in interur decreased from 1,385,331 g last year to 1,312,032 g month this year. Diesel oi tion for Diesel-engined bu urban and interurban serv slightly in the month this from 216,221 gall. in May 222,845 gall. in the month t

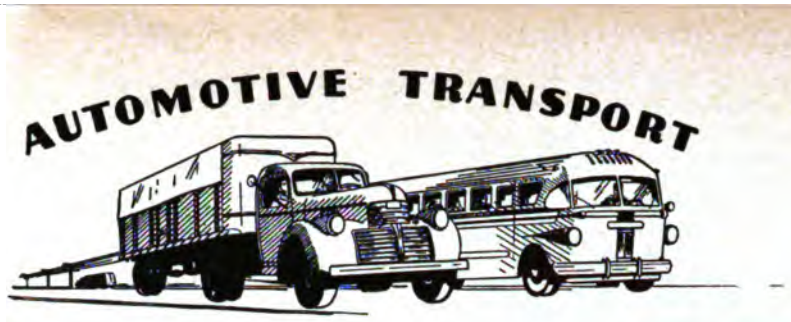
Quite complete figures, this year and last, are pre the page-wide table whic panies this review. The figur the passenger traffic, revenu mileage and fuel consumptio transit properties in each individually, for interprovin operators as a group, and fo operators in all of Canada, ar comparisons with May, 1949, sented. As in many preceding a number of Quebec bus o who reported for the 1949 mo not report for May this year, make the figures comparabl statistics of these operators fo last year are excluded from month's totals for the Provi Quebec and for Canada as a who these May, 1949, figures appe a footnote to the table. All figur supplied by the Dominion Bure Statistics, Public Finance and T portation Division.

FM Radio on B.C.E.R. Co. Mainlan System

Beginning August 1, an all-male cast commenced broadcasting 24 hours a day in Vancouver, with the air waves all to themselves, and although the dialogue is ad lib and would never earn a Hooper rating, it has number one priority so far as the B.C.E.R. Co. transit men are c cerned. Reference is to the B.C.E new radio control installation at O ridge Transit Center, operating o special FM frequency with a ra of 50 miles. The new system is supe vised by W. W. McAulay, assisted



One of Five Cars for Traffic Supervisors Operating in the Greater Vancouver Area
These cars are dispatched by the Oakridge Transit Center station to any point on the transit system at which trouble develops. In addition to being equipped with radio-telephone, they carry much emergency equipment.



The Trucking Industry's Stake in Good Roads

By John Veitch, Vice President, Canadian Automotive Transportation Association

Among the addresses delivered at the 31st annual meeting of the Canadian Good Roads Association, at the Fort Garry Hotel, Winnipeg, September 19-21, was that on the stake of the trucking industry in good roads, by John Veitch, Vice President, Canadian Automotive Transportation Association. In addressing the meeting, Mr. Veitch stated as in the following.

The trucking industry is honoured to be represented on this Convention Programme of the Canadian Good Roads Association. The Association which I am privileged to represent—the Canadian Automotive Transportation Association—has enjoyed a friendly and cordial relationship with your organization for many years. As a matter of fact, this is not the first occasion upon which the C.A.T.A. has been invited to express its views on some of the problems in which we share a common interest. C.A.T.A.'s Executive Secretary, Mr. John Magee, spoke at your Convention in St. Andrews, New Brunswick, in September, 1947. He dealt on that occasion with the development of the trucking industry from its initial period of growth in the early 1920's. He expressed the viewpoint of our National Association, and of our affiliated trucking associations in all the provinces, of the need for provincial governmental control over entry into the trucking field, based on public necessity and convenience, and of provincial control of the trucking industry's rate structure so that the interests of the shipping public will be protected.

Those two measures are universally accepted on this continent in the regulation of other forms of freight transportation. Most provinces—including my own province of Manitoba—have implemented these truck regulatory measures in Canada. They are the provinces which have eliminated the chaotic conditions of the early days of the trucking industry and have ensured its sound, healthy development.

Today I would like to talk about the trucking industry's stake in good roads and to explain why the trucking industry stands four-square behind the principle of provincial control of highway transportation.

The trucking industry intends to continue and intensify its support of the fine work being done by the Canadian Good Roads Association in promoting the development and expansion of Canada's highway system.

We truckers believe there is another way in which we can show our support of good roads development and that is by stamping out any overloading which may exist in the organized section of the trucking industry—and by "organized section" I mean the 5,500 trucking firms which are members of provincial trucking associations in Canada.

The trucking industry does not carry whatever weights it desires in its vehicles. The weight of the load is limited by law according to the type of vehicle, whether it be a truck or tractor-trailer. Because there are always a few operators who will risk jeopardizing our relations with the public by deliberately overloading their trucks far beyond the prescribed limits, the provincial governments employ inspectors to enforce the regulations regarding the maximum weights which may be moved over the highways.

The provincial highway engineers are the men who decide what weights the highways will stand and their decisions, translated into law, are enforced. The weight which may be carried on each axle is specified so that the gross weight is scientifically distributed over as many axles as are required to avoid damage to the highways. That is why an extra axle and an extra set of double wheels on the trailer or truck will render it legally possible to carry a heavier load than on single axles.

As for the work of those whose job it is to enforce the weight regulations, there is no pussy-footing about our attitude. We know that damage to highways is not caused by the vast majority of trucking firms who conform with legal weight limits that highway engineers prescribe. Damage to highways is caused partly by a few irresponsible trucking firms which overload far beyond the legal weight limits. The Canadian Automotive Transportation Association supports the work of the inspectors and police in every province whose job it is to stamp out overloading. If there is any practical co-operation we can offer those who deal with this matter we are always ready and willing to provide such co-operation.

It is in no sense of qualification of that statement of policy that I point out that overloading is by no means the sole cause of highway damage. When overloading combines with other abnormal conditions then damage may result. I say without the slightest hesitation that anyone who tries to saddle the trucking industry with complete responsibility for highway damage is being less than objective and should such propaganda develop in Canada we truckers would have no choice but to answer it on a nation-wide basis.

Many of Canada's most competent highway engineers have recognized the importance of building highways to withstand the destructive forces of the weather and this is primarily the motivation behind the building of so-called "heavier pavements". The United States Public Roads Administration, in its 1940 report to Congress declared:—"Few people realize that variations in the temperature of a concrete pavement may be more destructive to the pavement than the heaviest loads permitted on the highways".

Proof that highway engineers recognize this is found in their engineering of roads intended only for automobile use. Although I am not aware of an example in Canada I do know of one in the State of Connecticut where the Merritt Parkway was built to the same specifications as roads designed for so-called "heavy truck traffic" although its use is restricted to passenger cars.

Anti-truck propaganda designed to lay the blame for deteriorated highway on truck use comes a cropper when attempting to answer this simple challenge: "In the case of highway of which mile after mile of the roadway is in perfect condition and then a bad stretch is encountered, how can the weight of trucks be blamed? If trucks were the cause, then the entire highway would be damaged instead of occasional bad stretches or

pot-holes. Isn't it true that the real reason lies in the manner in which the roadbed was prepared or the surface processed over the particular spots in which damage exists? How can you go along mile after mile on a certain highway used extensively by trucks, and coming to a bad spot blame it on the weight of trucks, without answering the question as to why the same trucks have not caused the same damage all along that highway?"

The answer, if a fair answer is given, must be that the particular damage to the highway is due to faulty subgrade, improper mixture or handling of the concrete or bituminous, or other production failures not related to use.

There are some 545,000 trucks or tractor-trailer combinations serving Canadians today. Of these, approximately 43,000 are "for-hire" vehicles. Shippers are using truck transportation for the same reason that any one of us buys a competitive service or product. You and I will patronize a service or product because we are convinced that we are getting something better or getting it at a lower cost. Sometimes we enjoy both advantages in our purchase. The shipper who purchases transportation is no different. There are no mysterious thought processes in the selection of the transport agency to carry his goods. He is not interested in academic discussion arising from the competitive relationship of the various forms of transportation. He chooses the transport agency which will serve him best at the lowest overall cost.

Shippers have had this right to patronize the transport agency of their own choice ever since the trucking industry entered the transportation picture and ended monopoly in transportation. Since that time, the trucking industry has not garnered all the freight traffic of the nation. The railways are still in the predominant position from the standpoint of annual tonnage volume and they probably always will be because of their unique ability to marshal the traffic and move it en masse.

But mass transportation, vital as it is to our national economy, is no longer sufficient. It ceased to be the be-all and end-all in transportation in the early 1920's. Industry was progressing. It was adopting new methods. The low inventory system came in and merchants ceased to order the large stocks which they used to carry for months at a time. As hand-to-mouth buying became prevalent, a vast increase in the frequency and speed of freight service was required. The truck was the unique answer to that need just as the railway answered the need for mass transportation. As the size of shipments diminished under the impact of the low inventory system the truck operator with his smaller carload unit possessed a natural advantage over established forms of transportation. This was during a period when the railways were increasing the size and capacity of their box cars with each successive year.

The depression accelerated the changes which were taking place within industry itself. Those who were slow to heed these changes were now compelled to do so. By carrying stocks in small quantities merchants could effect vital economies in the conduct of their business and the necessity of much arranging of credit with the banks was eliminated. Freight traffic was literally driven to the highways as shippers were compelled to overthrow the basic concept of mass movement upon which transportation had been predicated since the early nineteenth century. Through the use of trucks merchants saved millions of dollars in inventory reduction. The trucking industry was well on its way to establishment in the 1920's but it was the depression of the 1930's which "made" the industry as we know it today.

The trucking industry continued to grow and except for several of the worst years of the depression truck registrations, tonnage volume, and gross revenues increased annually throughout the 1930's.

The depression compelled shippers to obtain not only faster and more frequent freight service but service at lower cost. Again the truck and truck-trailer provided an answer. The truck has given shippers faster transportation on most hauls than they have ever received before. It has provided them with a complete door-to-door movement of merchandise which no other form of transportation has been able to equal. Packing requirements have been less stringent than those of other forms of transportation because of the efficient shock absorption features of the truck and small carload unit more suited to the load. How much shippers have saved by the reduction of packing and crating costs is not known but, as in the case of inventory reduction, it is a safe estimate that the savings have run into millions of dollars. At the same time there has been less loss and damage of freight. Schedules are flexible and are designed to meet the needs of the shipping public rather than the convenience of the operator. Even when highway freight rates have reached the same level as railway rates the service advantages of the truck have rendered the overall cost of transportation cheaper.

A feature of the trucking industry's growth has been the controversy which has dragged on through the years regarding the competitive relationship of rail and highway transportation. The trucking industry did not start this controversy and its position throughout has been merely to protect itself from attack and to set the record straight whenever the occasion demanded. We believe in competition, not monopoly, in transportation and we believe that the shipper should remain free to choose the means of transportation which pro-

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Fourth Annual Truck Roadeo

The truck driving championship in the fourth Canadian Annual Truck Roadeo was won by an 18-year-old youth who has been driving for only two years. Sixty drivers were entered in the competition.

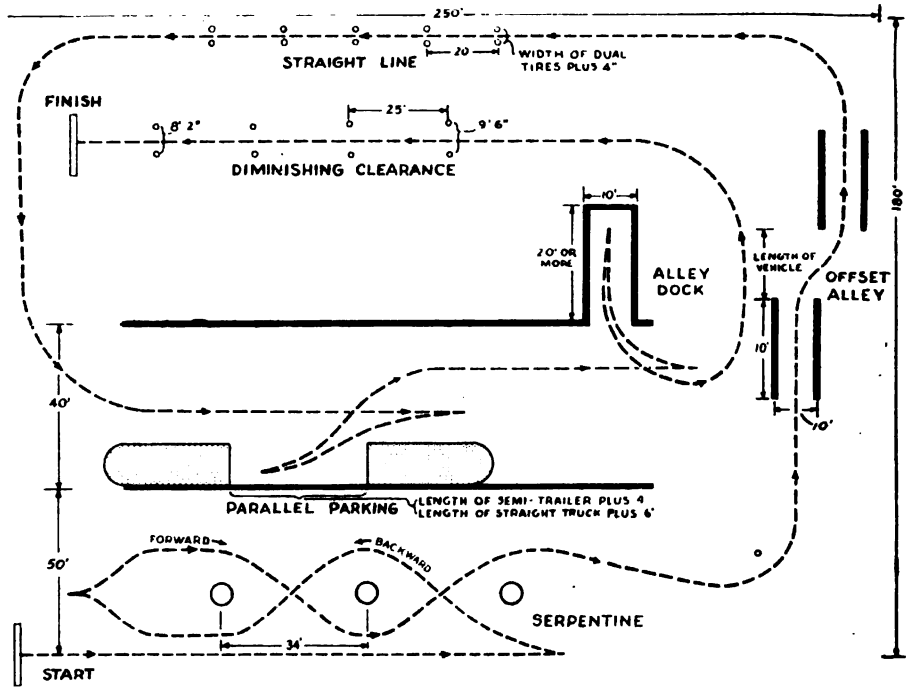
The fourth Canadian Annual Truck Roadeo, sponsored by the Automotive Transport Association of Ontario and supported by government agencies, police bodies, safety organizations and manufacturers and suppliers to the automotive industry, was held at the Canadian National Exhibition grounds, in Toronto, October 24 and 25. This roadeo is a contest to determine, through a series of competitive events, a truck driver's knowledge of safety, courtesy and efficiency, as well as skill in handling the type of equipment used in his occupation. Also, the event serves to bring to the attention of the public the fact that truck driving is a profession followed by men whose knowledge and execution of safe driving practices and driving skills are of a high order. The contests are open to drivers who have been working for not more than two employers during the preceding year, and who have had a perfect safety record during such year, but no employer may enter more than one driver in each class of competition. Owner-drivers are also eligible to participate, providing that they have been free of accidents for one year prior to the competition. The closing date for entries in this year's competition was October 10. The competition is open to any firm or person owning trucks, anywhere in Canada. In the driving events there are two classes of competition, viz., straight truck, and tractor and semi-trailer combination. Also, with the co-operation of the Department of National Defense, a special class of competition for armed forces personnel is conducted, and elimination contests were held throughout the various commands, with the winners meeting in the final competition in Toronto on October 25.

In the straight truck competition, Donald Fitzpatrick, of Burlington, Ont., who is only 18 years old and who has been a driver of heavy trucks for only the past two years, was the winner. William Bradley, of Windsor, Ont., the winner last year, and William K. Johnston, of London, Ont., tied for second place, and in further competition, Mr. Johnston secured 308 points to 299 for Mr. Bradley. Mr. Fitzpatrick secured 317 points.

In the tractor and semi-trailer competition, Frank Bell, of Toronto, the winner last year, again led with 320 points; W. H. Williamson, of Vancouver, was second, with 304 points, and A. Shepherd, of Burlington, was third, with 291 points.

In the armed services competition, Cpl. Pettinger of Camp Borden, the winner last year, again won, with 311 points. Pte. E. Klassen, of Winnipeg, was second with 299 points, and Cpl. B. W. Fortune of Goose Bay, Labrador, was third with 295 points.

In the various divisions of competition each first place winner receives a large trophy which remains in the



Layout of the Field for the Fourth Canadian Truck Roadeo Championship Driving Contests.

Good Roads Association Meeting

The annual meeting of the Canadian Good Roads Association, at Winnipeg, September 19-21, was well attended and very successful in every way. The Saskatchewan Minister of Highways and Transportation, Hon. J. T. Douglas, was elected President for the 1950-1951 year.

The plans for this year's annual meeting of the Canadian Good Roads Association, at Winnipeg, September 19-21, were described in our September issue, pg. 516, where the measures taken to expand the activities of the Association were described also; it was recorded that C. W. Gilchrist, O.B.E., for the preceding four years Director of Information Services for the Dominion Department of National Health and Welfare, had been elected Managing Director of the Association.

With Hon. Errick F. Willis, the Association President last year, as honorary President for this year, other officers of the Association for 1950-951 were elected as follows:—President, Hon. J. T. Douglas, Minister of Highways and Transportation, Saskatchewan; First Vice President, M. D. Rawding, Minister of Highways and Public Works, Nova Scotia; Second Vice President, Hon. E. C. Carson, Minister of Public Works, British Columbia; Third Vice President, Hon. D. B. MacMillan, Minister of Public Works, Alberta; Fourth Vice President, Hon. E. S. Spencer, Minister of Public Works, Newfoundland; Fifth Vice President, W. Beattie Ramsay, President, Beattie Ramsay Construction Co., Ltd., Regina.

The directors for 1950-1951 are the foregoing officers and Hon. W. S. Anderson, Minister of Public Works, New Brunswick; A. W. Barbour, Deputy Minister of Public Works, New Brunswick; Dr. deGaspe Beaubien, C.B.E., President, Royal Automobile Club of Canada, Montreal; A. Bergeron, Deputy Minister of Roads, Quebec; W. O. Bovard, Vice President and Director of Sales, Canada Cement Co. Ltd., Montreal; George Collins, Deputy Minister of Public Works, Manitoba; Hon. H. H. Cox, Minister of Public Works and Highways, Prince Edward Island; R. M. French, Roads Engineer, Department of Public Works, Newfoundland; Ernest H. Gohier, Chief Engineer, Department of Roads, Quebec; R. M. Hardy, Dean, Faculty of Engineering, University of Alberta, Edmonton; R. G. L. Harstone, Vice President, Canada Crushed Stone Co., Ltd., Hamilton; F. A. Hogan, Mgr., Asphalt Sales Department, Imperial Oil Limited, Toronto; E. S. Jones, Deputy Minister of Public Works, British Columbia; Walter J. Kane, President, Kane Equipment Limited, Winnipeg; Georges Leveille, Secretary to the Premier and Director of Provincial Publicity Bureau, Quebec; H. R. MacKenzie, Deputy Minister of Highways and Transportation, Saskatchewan; T. L. Mahony, Secretary-Treasurer, Ontario Good Roads Association, Hamilton; R. W. McColough, Executive Assistant to the Minister, Department of Highways and Public Works, Nova Scotia; G. H. N. Monkman, Deputy Minister of Public Works, Alberta; A. R. Morrison, Past President, Ontario Motor League, London; Hon. William Morton, Minister of Public Works, Manitoba; J. P. Russell, Managing Editor, "Roads and Engineering Construction," Toronto; R. A. Stapells, President, Canadian Automobile Association, Toronto; Hon. Antonio Talbot, Minister of Roads, Quebec; R. G. White, Deputy Minister of Public Works and Highways, Prince Edward Island.



Hon. J. T. Douglas,
Minister of Highways and Transportation, Province of Saskatchewan, and President, Canadian Good Roads Association.

The executive committee for this year consists of Mr. Mahony, as Chairman, and Messrs. Bergeron, Harstone, Ramsay, Douglas, Kane, Russell, Talbot, Willis, Gilchrist, McColough and Stapells.

August Motor Vehicle Shipments

In August this year, according to advice from the Dominion Bureau of Statistics, Industry and Merchandising Division, Mining, Metallurgical and Chemical Section, factory shipments of Canadian-made motor vehicles totalled 24,272 units, compared with 40,131 units in July and with 20,475 units in August, 1949. The shipments were made up of 6,909 commercial vehicles, viz., 6,837 trucks (6,345 for domestic sale and 492 for export) and 72 coaches or buses (all for domestic sale), and 17,363 automobiles (16,235 for domestic sale and 1,128 for export). In addition, there were shipments in August of 1,613 motor vehicles imported from the United States, comprising 277 commercial vehicles (all trucks) and 1,336 automobiles.

Following is the record of commercial vehicle shipments in August:—

Maximum Gross Vehicle Weight in pounds	Made-in-Canada Vehicles For Sale in Canada	For Export	Total	Vehicles Imported from U.S.
5,000 and less	3,241	331	3,572	184
5,001—10,000	1,470	24	1,494	54
10,001—14,000	458	76	534	...
14,001—16,000	808	61	869	...
16,001—19,500	178	-	178	6
19,501—26,000	100	-	100	20
Over 26,000	90	...	90	13
Total trucks	6,345	492	6,837	277
Total coaches or buses	72	...	72	...
Total commercial vehicles	6,417	492	6,909	277

Shipments in First Eight Months

In the first eight months of this year, factory shipments of Canadian-made motor vehicles totalled 256,168 units, compared with 185,973 and 161,247 units for similar periods in 1949 and 1948 respectively. These were made up of 71,521 commercial vehicles, comprising 71,112 trucks (65,232 for domestic sale and 5,880 for export) and 409 coaches or buses (all for domestic sale), and 184,647 automobiles (170,368 for domestic sale and 14,279 for export). There were also shipments of 2,791 commercial vehicles (all trucks) and 10,647 automobiles imported from the United States.

Following is the record of commercial motor vehicle shipments during the first eight months of this year:—

Maximum Gross Vehicle Weight in pounds	Made-in-Canada Vehicles For Sale in Canada	For Export	Total	Vehicles Imported from U.S.
5,000 and less	32,684	2,392	35,076	2,110
5,001—10,000	14,899	791	15,690	357
10,001—14,000	4,999	1,500	6,499	1
14,001—16,000	9,494	1,192	10,686	14
16,001—19,500	1,784	-	1,784	28
19,501—26,000	846	5	851	125
Over 26,000	526	...	526	156
Total trucks	65,232	5,880	71,112	2,791
Total coaches or buses	409	-	409	...
Total commercial vehicles	65,641	5,880	71,521	2,791

Preliminary figures on sales of British-made vehicles in Canada in August were 5,727 automobiles and 381 trucks and buses, and in the first eight months of this year, 46,043 automobiles and 3,027 trucks and buses.

Record Production For GMC

In the first nine months of this year, General Motors of Canada, Ltd., Oshawa, Ont., produced 116,754 motor vehicle units, or 9,790 units more than the previous all-time record for a full calendar year. The previous record for a full 12-month period was 107,964 units (including more than 50,000 military vehicles) built in 1941. The best previous peace-time record was 104,198 units, established in 1929.

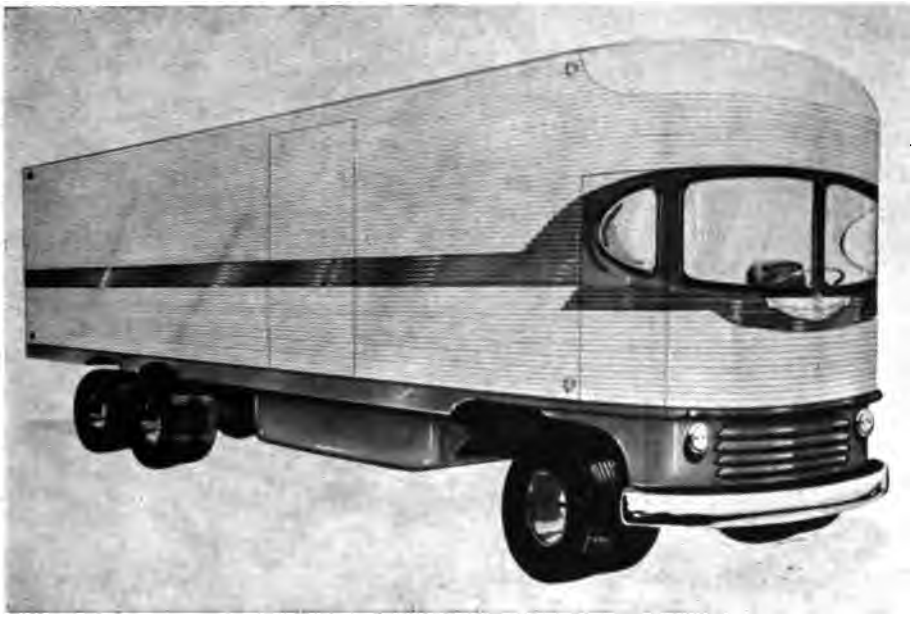
The company established a new all-time production record for a single day on September 18 this year, when 923 units were turned out. Total shipments in the month of September were 16,020 units.

The GMC President, William A. Wecker, in commenting on the production records established, said:—"We look forward to a continuing and undiminished demand for our vehicles, well ahead into next year, with no indication of our being able to catch up to new orders."

Twin Coach Introduces Novel Trucks

In co-operation with Fruehauf Trailer Co., Twin Coach Co. has entered the truck-building field with the "Fageol Super Freighter", which is in the nature of a self-propelled trailer, being composed of a Fruehauf trailer powered by a Fageol Twin Coach engine with underfloor mounting.

Twin Coach Co., bus builder in Kent, O., entered the motor truck building industry early in October with a new line of cargo trucks of large capacity. The new trucks, designed by L. J. Fageol, the Twin Coach Co. President, are known as 'Fageol Super Freighters"; their design utilizes standard Fruehauf trailers and was developed in co-operation with the Fruehauf Trailer Co. The new trucks are powered by Fageol Twin Coach engine with underfloor mounting, which may be operated on either gasoline or propane.



One of the New Twin Coach Large Capacity Cargo Trucks, or "Fageol Super Freighters" This vehicle, developed in co-operation with Fruehauf Trailer Co., utilizes a standard Fruehauf trailer, powered by underfloor-mounted Fageol Twin Coach engine, utilizing either gasoline or propane.

In appearance and payload capacity, Super Freighters are in reality self-propelled trailers, according to Mr. Fageol. They retain all of the trailer load-carrying capacity. Installation of driver's compartment and mounting of engine, transmission, axles, brakes, steering, etc. are being handled in the Twin Coach Co. plant.

The underfloor location of the engine is made possible by its pancake design, originally worked out for underfloor bus mounting. This permits utilization for cargo carrying of space normally occupied by the engine.

Super Freighters provide more payload space than any standard motor truck (cab-over-engine or conventional) of the same wheelbase, according to Mr. Fageol, who said:—"In addition they have the same load-carrying capacities as tractor-trailers. But, because the tractor unit is eliminated, they weigh from 5,000 to 8,000 lb. less and are from 8 to 10 ft. shorter."

In announcing the Super Freighter, Mr. Fageol predicted that this new type of cargo carrier will find immediate acceptance in the trucking industry where present emphasis is on greater capacity with reduced weight. He revealed that demonstrations have already been conducted before officials of several leading truck lines and that a number of orders have been received. He stated:—"It has been clearly proven that a Super Freighter towing a standard 4-wheel trailer will provide more cargo-carrying space than can be obtained with any other combination of vehicles."

In addition to their use as cargo trucks, Super Freighters are also ideally designed for a variety of other purposes, Mr. Fageol said, adding:—"Because of their large inside dimensions, they can be easily outfitted as mobile medical and dental clinics, traveling hospitals, stores-on-wheels, field offices, mobile machine shops, ambulances, equipment service units, military personnel trucks and a variety of other applications."

Super Freighters are built around a wide variety of Fruehauf Trailer models and body types. These include refrigerator trucks, moving vans and livestock vans in addition to regular cargo trucks. Specifications are adapted to individual needs and special operating requirements.

The 35 ft. stainless steel model shown in the accompanying illustration utilizes a Fruehauf GT-55 trailer. It has a vehicle net weight of 17,500 lb. Payload capacity is 33,000 lb. Overall length (bumper to rear) is 35 ft.

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Transit Service in Sudbury

An article in our October issue, pg. 565, told of the plans for immediate discontinuance of electric railway service by the Sudbury-Copper Cliff Suburban Electric Ry. Co., of which Clayton D. Aitken is General Manager. Recent official advice is that final operation of street cars was on September 30; since that date, all-bus operation has been the rule. The all-bus system began with a total of 33 vehicles, all of transit type, and including Canadian Car-Brill, Ford, Reo and Fitzjohn vehicles. Just prior to the end of September, delivery was received of two new Canadian Car-Brill model C-36 coaches, and more of these vehicles will be added to the fleet from time to time. The bus operation is on 11 routes, viz., 10 in Sudbury and one to Copper Cliff. The total route mileage, including the line to Copper Cliff, is 24.4. The Sudbury-Copper Cliff route is six miles long. About 3,000 miles a day are being operated by the buses.

The present fare structure within Sudbury includes a 10c cash fare for adults, with three tickets for 20c, but at the date of our advice the company had an application before the Ontario Municipal Board for increase of the ticket rate to three for 25c. On the other hand, the fare for children and school children is being reduced from six tickets for 20c to eight tickets for 25c. No change in the fare on the Copper Cliff route is involved, but the fare for children and school children on this route is reduced by 25%. In the past, there have been books of 30 tickets for workmen travelling between Sudbury and Copper Cliff, selling at $3, but these are being eliminated, leaving the special fare for workmen on this route at eight tickets for $1.

Until the recent termination of electric railway operation, the electric railway cars and buses were maintained in the old car house, with a small auxiliary garage, but the company has awarded a contract for the construction of a garage 125 ft. long by 105 ft. wide, on property 600 x 115 ft. near the present car house. The new garage, modern and complete in all respects, is expected to be ready for occupancy by December 31. The 105 ft. width will be a clear span, and the garage is being so constructed that it can be enlarged very easily if required by maintenance demands.

Near the end of last year, the company purchased the City Bus Lines operation in Sudbury, beginning actual operation of that company's routes on January 1. The purchase involved the acquisition of two Reo and four Fitzjohn coaches. Although the company is operating four different makes of equipment at the present time, the intention is to standardize on one make in all future purchases.

All of the open electric railway tracks, overhead current distribution structure, etc., used in conjunction with the electric railway operation, are being removed.

W. A. Gareau Kingsway Traffic Manager

The appointment of Wilfred A. Gareau, Montreal, as traffic manager of Kingsway Transports, Ltd., with immediate effect, is announced by John W. McGiffin, Vice President and General Manager of the company. Mr.



Richard Arless Associates Photo
W. A. Gareau,
Traffic Manager, Kingsway Transports, Ltd.

Gareau became associated with Kingsway six months after its formation in 1941. He was formerly in charge of the accounting division of the company, and has a wide and diversified knowledge of the shipping business in Eastern Canada.

Born in Winnipeg in 1911, he moved to Montreal in 1924, where he completed his high school education before entering the service of the Century Coal Company, engaging in general office work and accounting. He later transferred to Canada Steamship Lines, Ltd., where he was identified with the many aspects of ocean freight. Since joining Kingsway in 1941, he has seen that company develop into one of the leading highway transport and dockside cartage organizations in Canada, with through routes extending from Quebec City to Hamilton, Ont.

While serving as head of the Kingsway accounting department, and being responsible for various other executive duties, Mr. Gareau has been closely associated with freight traffic matters. He is widely known throughout the automotive industry in Canada and is a member of the Traffic Club of Montreal.

Automotive Transport Association of Ontario Meeting

As this issue closes for the press, the Automotive Transport Association of Ontario is holding its 24th annual meeting, with accompanying luncheons and annual dinner, at the Royal York Hotel, Toronto, October 25 and 26. Among the speakers scheduled to give addresses are Walter S. Belson, Director of Public Relations of American Trucking Associations, Washington, D.C., whose subject is "Revolution in Transportation"; H. Napier Moore, Editorial Director of the MacLean-Hunter Publishing Co., Ltd., and Rev. Laurence Hall of Portsmouth, O.; John D. Miller, Deputy Minister of Highways for Ontario, who is speaking on "Future Trends in Highway Construction"; R. T. Jennings, of General Motors Corp., Pontiac, Mich., whose subject is "Diesel vs. Gasoline Motors"; E. M. Cockin, of the Ontario Department of Highways, who is speaking on problems of law enforcement, and D. C. Ferguson, of National Propane Co., Ltd., who is discussing the possibilities of propane in truck operation. Other speakers include John Magee of the Canadian Automotive Transportation Association, H. C. Caldwell of the Bank of Nova Scotia, John Duhan of The Bell Telephone Co. of Canada, and Dr. Harvey Doney of the Canadian Red Cross Society. At the annual dinner, on October 26, the prizes won by contestants in the Fourth Annual National Truck Roadeo are being awarded.

GMC New Warehouse In Oshawa

The breaking of ground for the new central parts distribution warehouse which General Motors of Canada, Ltd., is building in Oshawa, Ont., was mentioned in our October issue, pg. 571, and an accompanying illustration showed a number of company executives who attended the ground turning ceremony. Recent advice is that this structure, for which Piggott Construction Co., Ltd., has the general contract, will cost in the neighborhood of $3 million. The contract for the levelling of the site, preparatory to construction, was awarded Curran and Briggs Construction Co., and this work was completed some weeks ago. The contract for the structural steel was awarded Dominion Structural Steel Co., Ltd., Montreal. The new building, a one-story one of brick construction, will provide approximately seven acres of floor space and will accommodate the approximately 500 employees of the existing parts department in Oshawa. It is expected that the new building will be in operation early next year. It will facilitate the handling of service parts to the company's regional depots across Canada; there are now eight of these depots, which number will be increased to nine with the completion of the new one in Montreal. This new Montreal depot was described in our August issue, pg. 456, that article having been illustrated by an architect's drawing showing the depot as it will appear upon completion.

engines in new horsepower ranges to match the changing power needs of owners and manufacturers of all types of heavy duty equipment.

Commencing with the introduction of the 165 h.p. Cummins Diesels in October, 1948, seven new engines in 33 models were made available in less than a year. The wide range of models is adapted to all types of automotive, industrial and marine power applications.

Fast Conversion of Bus To Ambulance

In a matter of minutes, in case of wartime emergency, stretchers like those shown in the accompanying illustration can be slung over the seats of a new Mack "Bus of To-morrow", 400 of which are on order for New York City. This civilian protective feature was incorporated in the bus, in the interest of public safety, under the guidance of Col. Sidney H. Bingham, Chairman of the New York City Board of Transportation. Other features in these buses include a staggered seating system for increased passenger comfort, and wide entrance and exit doors. The wide doors also permit easy access of the stretchers.

Diesel-Powered Buses For Quebec

V. M. Drury, President, Canadian Car and Foundry Co., Ltd., announced near the end of September receipt of an order by that company from Quebec Ry., Light and Power Co. for 30 36-psgr. Canadian Car-Brill Diesel-powered buses. These buses, Mr. Drury's announcement said, will be equipped with the famous Associated Equipment Co. Diesel engine as supplied for London (England) Transport Board buses, and for which Canadian Car and Foundry Co., Ltd., has exclusive rights in Canada and the United States.

The announcement by Mr. Drury said:—"The A.E.C. engine is one of the foremost automotive Diesel engines in the world and is used by the

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Pacific Stage Lines' New Depot

An ultra-modern Pacific Stage Lines bus depot was formally opened in Cloverdale, B.C., in the Fraser Valley, September 23. This depot, a part of the plans of the company and of British Columbia Electric Ry. Co. for the expenditure of $365,000 for the establishment of new depots and office facilities in the Fraser Valley, is situated between Broadway and Bond Street, east of King Edward, in Cloverdale, and is complete with waiting room, baggage and express office, coffee shop, magazine, cigarette and candy bar, and lavatory facilities. The interior is finished in pastel shades and illumination is by fluorescent lighting. Large window area gives the building a spacious and airy appearance. Kenneth McKay, Pacific Stage Lines agent, was in attendance at the opening.

For the present, the yard and road around the depot are surfaced with gravel, but according to I. W. Neil, the Pacific Stage Lines Vice President and General Manager, a blacktop surface will be provided as soon as settlement takes place.

Buses operating out of the new terminal make 14 round trips to Vancouver on weekdays except Saturdays, and eight round trips on Saturdays and Sundays. Also, buses make direct connections for Chilliwack and Hope, in addition to seven round trips daily to Langley Prairie, connecting with Western Canada Greyhound buses to points in Northern and Eastern Canada. In addition, there are four trips daily to White Rock.

The new depot was built by the Cloverdale Construction Co. at cost of $36,000, and an additional $10,000 was spent on interior facilities and in beautifying the grounds.

When the new depot at Cloverdale was opened, new structures being built at Mission and Chilliwack, at cost of about $75,000 each, were nearing completion, and details of the Chilliwack depot were given in our September issue, pg. 521, along with an illustration showing it as it will appear upon completion. A similar terminal was opened at White Rock last year, having been described in these columns at the time. Depots are scheduled to be built at Abbotsford, Langley Prairie and Haney in 1951.

GMC Record Production

With the production of its 100,000th unit from the beginning of this year to August 31, General Motors of Canada, Ltd., could on that date boast of its highest production record for any eight-month period in its history. Units produced in the first eight months of 1950 were greater in number than those produced in all of 1949.

In spite of the many supply difficulties throughout this year which culminated in the railway strike, the big Oshawa plant has operated at an enormous rate in an attempt to keep pace with the unprecedented demand for new cars and trucks. At the height of the railway strike, the company was able to turn out an all-time production high for a single day of 776 units.

President William A. Wecker said: "Great credit must be given our purchasing, traffic and material handling departments, which have performed a tremendous job in maintaining the plant's supply lines.

"In addition, I cannot praise too highly the contribution made by the trucking industry and the unlimited co-operation we have had from its members. When rail shipments stopped, the trucking industry, with only the shortest notice from ourselves, was able to set up a steady supply line carrying needed components from many and often distant sources, from which we are normally served by the railroads."



The Pacific Stage Lines New Bus Depot at Cloverdale, B.C., in the Fraser Valley.

Huge Equipment Purchase By Greyhound

The Greyhound Lines, world's largest inter-city coach operator, has purchased 761 GM Diesel Coaches, according to an announcement on October 13 by GMC Truck and Coach Division, Pontiac, Mich.

A survey by Greyhound of its present fleet indicated that over-age and fringe equipment could not withstand the overload conditions that might accompany a national emergency. This resulted in Greyhound's large purchase of equipment, totaling in excess of $18,000,000, to rehabilitate the fleet to meet any transportation situation which may occur.

The order calls for 644 inter-city coaches of 37-41 passenger capacity and 117 suburban-transit type vehicles seating from 45 to 53 passengers. All of the coaches purchased are GM models now in production.

With the present order the Greyhound Lines have purchased a total of 4,623 GM Diesels.

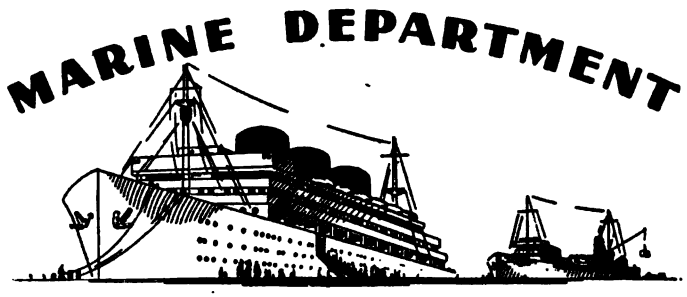
Delivery of the new coaches will start shortly after the first of the year.

GMC Truck and Coach Division Deliveries

In September, General Motors Corp. Truck and Coach Division, Pontiac, Mich., delivered 208 motor coaches. The majority of these were for customers in the continental United States, but there was one shipment of 34 coaches, model TDH-3612, 36-psgr. vehicles, consigned to General Motors Overseas Operations, Havana, Cuba. Other large shipments were 25 model TDH-5103, 51-psgr. coaches to Railway Equipment and Realty Co., Ltd., Oakland, Calif.; 19 similar vehicles to Cleveland Transit System, Cleveland, O.; 10 model TDH-4509, 45-psgr. coaches to Cincinnati Street Ry. Co., Cincinnati, O.; 10 similar coaches to Springfield Street Railway Co., Springfield, Mass., and 10 model TGH-2708, 27-psgr. coaches to the United States Treasury Department, Washington.

Fitzjohn Coach of Canada Ltd.

In the period September 15-October 14, Fitzjohn Coach of Canada, Ltd., Brantford, Ont., delivered a model 310, 35-psgr. motor coach to Roseland Bus Lines, Toronto; and model 310, 33-psgr. coaches as follows:—Armstrong Coach Co., Trenton, Ont., two; City Bus Service, Sarnia, Ont., one; Nickel Belt Lines, Sudbury, Ont., one; Gatineau Bus Lines, Hull, Que., one. Also delivered was a model FTG, 33-psgr. coach for SMT Eastern, Ltd., Fredericton, N.B.



Further Particulars of Sea Going Dredge

In the following is presented a quite complete description of the Diesel-electric trailer suction dredge "Sandpiper", built by Canadian Vickers, Ltd., for Creole Petroleum Corp.

In our October issue, pg. 580, there appeared a brief reference to the twin screw dredge "Sandpiper", built for Creole Petroleum Corp. by Canadian Vickers, Ltd., Montreal, and an illustration of the dredge, prepared from a photograph taken immediately following her launching, was presented. It was noted that she is for operation in the Caribbean area. This dredge was designed by the Marine Department of the Standard Oil Co. of New Jersey, and is of the most modern type for its specialized service, with complete equipment, controls and recording instruments. The unit is what is known as a "trailer suction dredger" and is equipped with its own hopper spaces for carrying the dredged materials to the dumping ground, thus being completely independent of any other craft during dredging operations.

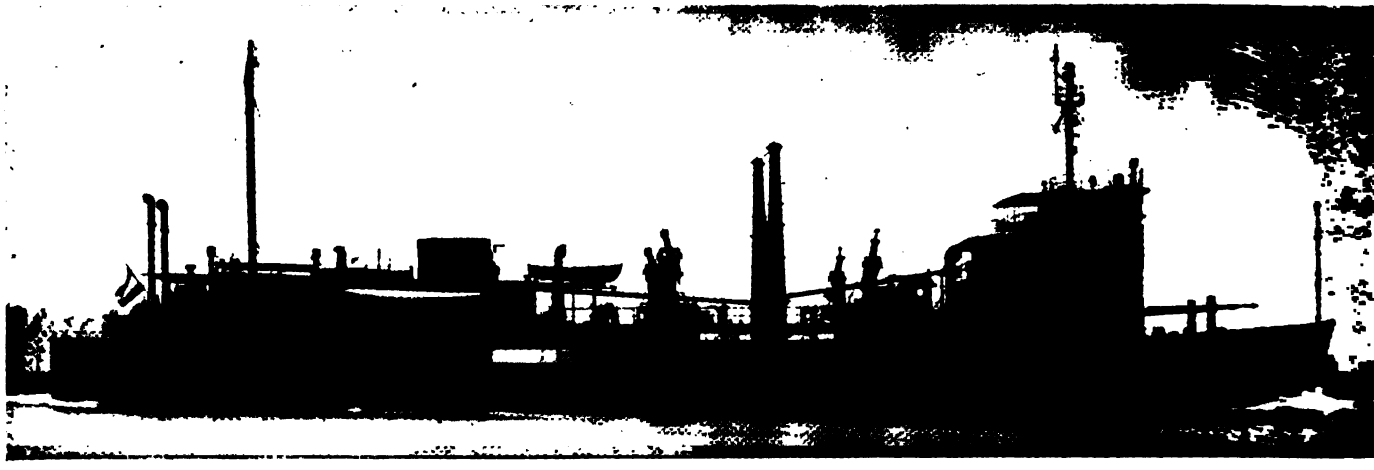
This dredge is 250 ft. long over all, with breadth of 46 ft., depth of 18 ft. and maximum draft of 15 ft., deadweight tonnage being 1,980. Total hopper capacity is 1,076 cu. yd.

Dredging is carried out by means of two 22 in. suction pipes, one on each side of the ship, which can be lowered down to the sea or river bottom. These pipes are connected to a large electrically driven hydraulic pump situated in the forward part of the ship, and are supported by two davits on each side. When in operation the dredge pump draws up a mixture of spoil and water and discharges this into the hoppers, where the spoil settles out and the excess water is drained off through specially designed overflows. As can be imagined, when the dredge is moving ahead and dragging her suction pipes over the bottom, the shocks and stresses due to an uneven bottom may be very considerable, and large spring type shock absorbers are fitted to the davits to eliminate this. The dredge is provided with a total of eight hoppers, each having an independent door at its bottom operated by a hydraulic cylinder. This method enables all hopper doors to be opened simultaneously from a central control point or individually, as required.

The dredging machinery and equipment were supplied by the Ellicott Machine Corporation of Baltimore, and the principal items concerned were the dredging pump, the suction pipes, drag heads, drag pipe davits and winches and also the hydraulic cylinders for the operation of the eight individual hopper doors. An interesting feature of the dredging equipment is the Hoffman Gas Ejection System, which has been fitted to the suction side of the dredge pump. The purpose of this installation is to prevent an accumulation of gas, released from the dredged material when it is disturbed, from entering the dredge pump and consequently reducing its efficiency.

The recording instruments fitted are in line with the modern equipment and include automatic devices to indicate the depth to which the ship is dredging, the fore and aft drafts of the ship and an automatic recorder which gives, at any time, a permanent record of the depth to which the drag pipes have been submerged. In addition, a recording echo sounder and a fine Radar set are fitted. The information obtained by these instruments is available to both the drag tenders and the dredging master in the wheelhouse, so that complete and accurate control of all dredging operations is easily obtained.

Very spacious accommodation has been arranged so that the ship is able to maintain dredging operations for an extended period with the maximum degree of comfort for her crew. No more than two crew members share any cabin, and both officers and crew



The Diesel-electric Dredge Sandpiper Proceeding Down the St. Lawrence on her Maiden Voyage from the Canadian Vickers, Ltd. Plant at Montreal to South American Waters.

It is to be noted that the drag suction pipes were removed from the dredge to protect them from the extremely rough weather conditions which might have been encountered on the trip, but the large davits for supporting the pipes can be clearly seen. The two large posts amidships each carried a 10-ton derrick for use in re-assembling the drag pipes at the end of the voyage, and also for carrying out any future maintenance work.

'e recreation rooms in addition to ir dining spaces. Particular care been given to the painting schemes give an impression of lightness and lness, which is so essential for com- t in a vessel operating in a hot nate.

'he machinery installed is of the sel-electric type and the ship is n screw. Two General Motors Die- -driven Westinghouse generators of ombined power of 2,000 b.h.p. sup- power to two propulsion motors ich can propel the ship when fully ded at 11 knots. As stated pre- usly, the dredge pump is electri- ly driven and is supplied with pow- from the two main generator sets en the ship is proceeding at dredg- speed. The electrical operation of propelling motors and dredging mp is most convenient for this type craft as it enables all controls to be ated in the wheelhouse and drag ider houses and, therefore, to be der the direct control of the dredg- master and drag tenders.

n general, the design of this ship orporates the most modern devel- ments for this type of work, and ile she has much intricate equip- nt, the arrangement is such as to sure the most accurate and expe- ious dredging to be accomplished.

The ship's trials, including dredging, eed and endurance, were carried t at the end of May, 1950, and were st successful. It is of interest to te that during the dredging trials, ich were carried out in the St. wrence River not far from the Ca- dian Vickers shipyard, the "Sand- er" load of sand in less than half an ur. Progressive speed trials on the easured mile were carried out below iebec and at full power "Sandpiper" ained a speed in excess of 11 knots.

Before construction was com- enced, a series of model tests were ried out at the Stevens Institute Technology, Hoboken, N.J., to de- mine the hull resistance and pro- ller characteristics for the ship. As result of these tests certain altera- ns were made to the drag pipes low the water level, which had the ect of considerably reducing their sistance.

The contract to build this dredge as obtained by Canadian Vickers, d., in open competition with a large mber of shipyards in the United ates and Canada.

Construction work was started in ptember, 1949, and the ship was nded over to her owners at the end May, 1950, an elapsed time of only ne months, which is extremely satis- ctory for a ship of such complex pe.

The ship is virtually a floating Die- l-electric-hydraulic plant, which had t only to operate within strictly ecified conditions but also had to rry definite deadweight at a speci- d draft, obtain speed conditions,

Halifax Harbour Experience in 1949

Water-borne cargo tonnage handled through the Harbour of Halifax, N.S., in 1949, totalled 3,566,255, down only slightly from that handled in 1948 and in 1947. Deepsea ship arrivals were 1,305 last year, compared with 1,195 in 1948. Capital expenditures in 1949 were nearly $1,900,000.

Included among the national harbours administered by the National Harbours Board, and dealt with in the report of that body for 1949, is the Harbour of Halifax, situated on the Atlantic coast of Nova Scotia and approached directly from the ocean by a channel with a minimum depth of 50 feet at low tide. Halifax Harbour is open to navigation the year round and is served by both the Canadian National and Canadian Pacific railways. Here, the National Harbours Board operates eight main piers and wharves having about 17,000 linear feet of berthing and being equipped with 14 transit sheds with an aggregate floor area of about 1,166,000 square feet. In addition, the Board operates a 2,200,000 bushel grain elevator with a maximum loading capacity of 75,000 bushels per hour and a marine tower with an unloading capacity of 15,000 bushels per hour; also a cold storage terminal warehouse, with about 1,655,350 cubic feet of storage space, completely fitted with freezing, storing and packing equipment and ample rail connections. A cattle shed with yards and runways, with a capacity of 1,000 head, is provided at a location convenient to both water and rail.

Ship Arrivals and Departures

There were 2,827 ship arrivals at Halifax in 1949, with net registered tonnage of 4,305,605, compared with 2,579 arrivals in 1948, with net registered tonnage of 4,179,092. Ship departures in 1949 were 2,788, representing 4,245,094 net registered tons, compared with 2,577 in 1948, representing 4,191,991 net registered tons. Figures recording ship arrivals and departures, and net registered tonnage of arriving and departing ships, in 1949 and each of the four immediately preceding years, follow.

	Number of Ships	Net Registered Tonnage
Arrivals—		
1949	2,827	4,305,6
1948	2,579	4,179,0
1947	2,319	3,406,4
1946	2,409	3,803,4
1945	3,160	7,084,2
Departures—		
1949	2,788	4,245,0
1948	2,577	4,191,9
1947	2,319	3,428,1
1946	2,414	3,811,1
1945	3,219	7,306,4

(Exclusive of naval craft)

Details as to the classes of ship arriving at and departing from Hali fax Harbour, and the number in eac class, in 1949 and 1948, together wit

Table 1—Statement Showing Classification, Number and Net Registered Tonnage of Ship which Arrived and Departed during Calendar Year 1949, with Comparison for 1948, Halifa Harbour.

	1949 Number of Vessels	1949 Net Registered Tonnage	1948 Number of Vessels	1948 Net Registere Tonnag
Arrivals—				
Deepsea or ocean-going commercial	1,305	4,140,177	1,195	4,015,7
Coastal or inland commercial (including fishery)	1,483	134,959	1,344	132,8
Other	39	30,469	40	30,8
Total	2,827	4,305,605	2,579	4,179,0
Departures—				
Deepsea or ocean-going commercial	1,280	4,079,655	1,189	4,028,1
Coastal or inland commercial (including fishery)	1,468	134,517	1,351	133,9
Other	40	30,922	37	29,9
Total	2,788	4,245,094	2,577	4,191,9

(Exclusive of naval craft)



The Harbour of Halifax, Nova Scotia

figures of net registered tonnage, appear in the accompanying two-column table 1. The figures show that here were 1,305 arrivals of deepsea hips in 1949, compared with 1,195 n 1948, the departures of such ships n 1949 having been 1,280, compared with 1,189 in 1948.

Cargo Tonnage

In 1949, water-borne foreign cargo handled at Halifax Harbour was 1,754,331 tons inward and 900,026 tons outward, a total of 2,654,357 tons. Domestic cargo was 255,567 tons inward and 656,331 tons outward, a total of 911,898 tons. Thus, the total inward cargo tonnage was 2,009,898, and the total outward cargo tonnage, 1,556,357, making the grand total cargo tonnage handled through the harbour, inward and outward, 3,566,255. This represented a slight decrease from the total cargo tonnage of 1948, viz., 3,629,206, and also from the 1947 total, viz., 3,577,459. Details of the cargo tonnage handled through Halifax Harbour in 1949, and in each of the four immediately preceding years, are furnished by the figures in the accompanying two-column table 2. These figures cover commercial cargo only, and do not take into account ballast, bunkers, ships' stores, mail and passenger baggage.



R. W. Hendry,
Port Manager, Port of Halif
Harbours Board.

Commodities Handled
Harbour

The chief tonnage mak
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Table 2—Statement Showing Water-borne Cargo Tonnage Unloaded from ar Ships during Calendar Year 1949, with Comparisons for Previous Years—Hali
Basis: Tons—weight (2,000 lbs.) or measurement (40 cu. ft.)

	Inward (Tons)	Outw (To
Foreign—		
1949	1,754,331	900
1948	1,888,671	1,083
1947	1,599,594	1,389
1946	1,439,930	1,388
1945	2,476,645	2,683
Domestic—		
1949	255,567	656
1948	316,892	340
1947	245,887	342
1946	298,512	258
1945	324,232	299
Total—		
1949	2,009,898	1,556
1948	2,205,563	1,423
1947	1,845,481	1,731
1946	1,738,442	1,647
1945	2,800,877	2,982

(Exclusive of ballast (non-revenue), bunkers, ships' stores, mail and passeng

Table 3.—Statement Showing Principal Commodities, and Tonnages thereof, of Cargo Tonnage Unloaded from and Loaded to Ships During Calendar Year 194 parison for 1948—Halifax Harbour.
Basis: Tons—weight (2,000 lbs.) or measurement (40 cu. ft.)

Commodities	Inward 1949 (Tons)	Outward 1949 (Tons)	To 194 (Tor
Petroleum Oil, crude	1,147,272		1,147
Petroleum Oil, fuel	100,595	448,792	549,
Gasoline	223,639	186,892	410,
Grain	123	292,627	292,
Coal, bituminous	115,880		115,
Flour, wheat	1,006	119,633	120,
Lumber (Planks, Boards and Flooring) and Square Timber	270	68,698	68,
Kerosene	56,557	5,348	61,
Fish (including Shell-fish), dried, pickled, salted or smoked	14,222	43,238	57,
Cement, common or portland	46,146	379	46,
Fish (including Shell-fish), fresh or frozen	40,757	2,406	43,
Coal, anthracite	40,351	16	40,
Sugar, raw	38,483	10	38,
Apples	9	36,983	36,
Logs, Masts, Piling, Pitprops, Poles, Posts, Spars and Ties (railway)	45	33,316	33,
Fertilizers and Fertilizer Materials	14,452	14,028	28,
Potatoes	151	28,060	28,
Motor Vehicles and Parts	22,734	5,212	27,
Aluminum, in bars, billets, blocks, ingots, pigs, rods, sheets or slabs	5,775	19,952	25,
Rubber, crude (including Latex)	23,465	959	24,
Paper, newsprint	25	21,168	21,
Railway Equipment not otherwise specified	21	18,016	18,
Copper Concentrates, Matte and Ore		16,570	16,
Barytes		15,023	15,
Tea	12,469	1,262	13,
Grain Products (Mill Products except Wheat Flour)	25	11,828	11,
Meats, canned, cured, prepared or preserved	1,186	9,910	11,
All Goods not otherwise specified	104,240	156,031	260,
Total	2,009,898	1,556,357	3,566,

(Exclusive of ballast (non-revenue), bunkers, ships' stores, mail and passenge

during the year amounted to $1,899,432. The principal items were:—

Construction of Shed 26 and Grain Gallery.—A contract was awarded in 1948 to Fundy Construction Company, Ltd., for the construction of a single story transit shed at berth 26, together with a two-belt grain conveyor gallery. About 10% of the contract work was done during that year. This work was continued in 1949 and was approximately 95% completed at the year end.

Reconstruction of Pier 3.—A contract was awarded in May, 1949, to E. G. M. Cape & Company, Ltd., for the demolition of the existing wood pile pier 3 and the construction of a reinforced concrete crib and fill type pier, approximately 750 ft. by 250 ft. The work was about 60% completed in 1949.

Minor Items.—These included the installation of heating facilities in the lower floor shed 21 and the purchase of two engineer's transits.

Revenues and Expenditures

The Halifax Harbour operating revenues in 1949 were $1,300,604.97, an increase of $30,041 over the 1948 operating revenues. Operating expenses (including administration and maintenance) in 1949 were $893,698.86, an increase of $31,170 over the 1948 expenditures. After charging interest due the Dominion Government and reserve for replacements, the 1949 operations resulted in a net income deficit of $138,331.99, compared with a deficit of $139,239 in 1948. The Halifax Harbour income statement for last year accompanies this article as two-column table 4.

Miscellaneous	124,287.67	
		359,752.57
Miscellaneous—Outsiders		54,853.46
		$1,300,604.97

Details of Operating Expenses

The Halifax Harbour administration expenses in 1949 were $108,008.68, and the outlay for operation and maintenance was $785,690.18, making the total operating expenses $893,698.86. Following are details of the 1949 operation and maintenance expenses:—

Harbour General	$54,169.21
Roads, Fences and Boundaries	2,863.71
Sewers and Drains	756.33
Wharves and Piers	67,002.52
Permanent Sheds	221,329.33
Grain Elevator System	135,480.64
Cold Storage System	265,390.21
Miscellaneous—Outsiders	38,708.23
	$785,690.18

Balance Sheet as at December 31, 1949

The assets side of the Halifax Harbour balance sheet as at December 31, 1949, records fixed assets of $30 163,566.62, current assets of $533,908.38, and the following other items:—Security deposits, $290,311.05; replacement fund, $3,214,744.17; fire and general insurance fund, $150,325.27; miscellaneous funds, $5,197.50; prepaid charges, $70.36; deferred debits, $4,189.15.

The liabilities side records the following items:—Dominion Government account, $30,004,189.98; construction accounts payable, $263,910.91; contractors' holdbacks, $191,431.50; current liabilities, $1,188,344.66; contractors' security deposits, $290.311.05; replacement reserve, $2,994,009.76; fire and general insurance reserve, $150,325.27; deferred credits, $15,009.58; deficit in surplus and deficit account. $735,220.21.

Table 4—Income Statement, Halifax Harbour, 1949.

Operating Revenues		$1,300,604.97
Operating Expenses		893,698.86
Operating Income		406,906.11
Income Received from Reserve Funds	$90,812.15	
Miscellaneous Income Credits	2,144.08	
		92,956.23
Total Income		499,862.34
Miscellaneous Deductions from Income		
Income received from Reserve Funds transferred to Reserves	90,812.15	
Miscellaneous Income Charges	995.71	
		91,807.86
		408,054.48
Other Income Requirements		
Reserve for Replacements	200,000.00	
Interest due Dominion Government	346,386.47	
		546,386.47
Net Income Deficit		$ 138,331.99

Details of Operating Revenues

The following table records the sources of Halifax Harbour operating revenue in 1949, and the amount derived from each.

Harbour General		
Harbour Dues	$30,657.08	
Miscellaneous	7,455.98	
		$38,113.06
Wharves and Piers		
Top Wharfage	320,632.90	
Dockage	131,426.65	
Miscellaneous	29,146.86	
		481,206.41
Permanent Sheds		
Shed Rentals	78,090.32	
Storage	29,357.07	
Miscellaneous	53,201.93	
		160,649.32
Grain Elevator System		
Elevation	129,694.56	
Storage	70,740.66	
Miscellaneous	5,594.93	
		206,030.15
Cold Storage System		
Storage	235,464.90	

Details of Fixed Assets

Following is a list of the Halifax Harbour fixed assets as of December 31, 1949:—

Harbour Dredging	$ 160,815.06
Real Estate	532,701.91
Roads, Fences and Boundaries	238,737.01
Sewers and Drains	60,611.27
Miscellaneous Structures	28,387.08
Wharves and Piers	16,771,883.86
Permanent Sheds	5,103,808.20
Grain Elevator System	2,486,031.10
Cold Storage System	1,917,207.61
Office Furniture and Appliances	33,716.94
Central Heating Plants	69,381.05
Electric Power System	8,409.40
Water Supply System	100,902.04
Floating Equipment	58,067.76
Shore Equipment	60,378.25
Miscellaneous Small Plant	58,317.53
Engineering—General Surveys	475,501.67
Works under Construction	1,998,708.88
Total	$30,163,566.62

Harbour Management

R. W. Hendry, M.B.E., is in charg of National Harbours Board oper tions at Halifax, with the title Port Manager. Mr. Hendry was bo at Liverpool, N.S., May 19, 1886, a educated at the high school there a the University of Toronto, taking t degree of B.A. From 1912 to 1914, was a clerk in a general store at Live pool; in 1915, he opened a branch Hendry, Ltd., in Halifax, and in 192 he formed the Nova Scotia Shippi Co., Ltd., Halifax, being President a Managing Director, when he resigne to take over Halifax Harbour admin stration.

International Body Expels CSU

The International Transport Wor ers' Federation has expelled the Can dian Seamen's Union, according to London, England, press dispatch October 9, the reason given for th action having been that the CSU ha "harmed the interests of its own me bers and those of other affiliate unions." According to the dispatc the decision to expel the CSU wa arrived at at the twenty-first bie nial convention of the ITF, held Stuttgart, Germany. The resolutio providing for the expulsion recite that the CSU strike in the spring a summer of 1949 was unnecessary, a that the alleged communist leaders the CSU misrepresented the facts the members in order to induce the to participate in the strike. The res lution stated:—"Everything points the fact that the strike of the Can dian Seamen's Union was decided b an outside power of which the leade of the CSU are the lackeys." It als noted that the vast majority of th CSU members had turned their back on that union.

The CSU was expelled from th Canadian Trades and Labour Con ress about a year ago, because of i Communist tendencies.

Soulanges Canal Navigation

A Notice to Mariners issued Octo ber 4 under authority of the Directo of Canal Services, Department o Transport, calls attention to new traf fic signal lights at the Canadian Na tional Rys. bridge crossing at Loc No. 5, Soulanges Canal, Coteau Land ing, Que. Mariners were notified a follows:—"Effective October 9, 1950 at 8.00 A.M., upbound and downbound vessels approaching Lock No. 5 shal be governed by the signal lights lo cated under and at each side of thi bridge. A steady red signal or n signal indicates that the bridge is no ready and a green light that it is ready for the passage of a vessel. A flashing red light indicates that the bridge i being made ready for the passage o a vessel. At night, Navigators shal also be governed at this lock by Regu lation No. 24 (5) of the Canal Rule and Regulations."

Owen Sound Transp

With the keel laid October 31, 1949, an work, the ss. Norgoma, product of The Owen Sound and Sault Ste

Something in the way of a record n speedy ship construction was set y The Collingwood Shipyards, Ltd., n the building of the Ss. Norgoma for Owen Sound Transportation Co. Ltd. The keel for this ship was laid October 31, 1949, and the launching took place on December 22. She was formally christened on April 22 by Mrs. W. Harris, wife of the Minister of Citizenship and Immigration. This ship is 175 ft. 6 in. long between perpendiculars, with breadth of 36 ft. and moulded depth of 15 ft. to the main deck. She is a steel ship of welded construction, to the original design of H. J. Whitmell, M.I.N.A., General Manager, Midland Shipyards, Ltd., from which working drawings were prepared by The Collingwood Shipyards, Ltd., under J. Surgenor, naval architect. She is a chine built ship with partial lower deck and main and upper decks, and in addition to passenger accommodation space is provided for 22 automobiles, for the handling of which a hydraulically-operated elevator built by The Collingwood Shipyards, Ltd., is provided, with operation by the ship's general service pump. Accommodation is provided for 200 day passengers, with berths for 102 passengers. Several de luxe cabins with bath are provided. In all cabins the upper berth is hinged, and so arranged that it may be lowered for use as a settee. The passenger accommodation is to high standards throughout.

The ship is powered by a triple expansion steam engine developing 800 i.h.p., with st marine boile erating under forced draft. plied by two 1 by steam tur and distributi by Bepco Can



The Owen Sound Transportation
This fine ship was built in record time by The Collingwood Shipyard

service pump was Smart-Turner Machi were the main feed pumps include the culating unit, suppl Mackley and Co., fresh water, sanita pump, along with a supplied by Canada refrigeration plant wi equipment, supplied by Owen Sound, provides refrigerated cargo spa boats, of John Ether make, are on davits su O. Monat and Co., Ltd. tion is provided by fire re heads, and alarm boxes Electric Co., Ltd., manu located in strategic positio out the ship. The ship i with modern aids to nav cluding Marconi radar a shore telephone, and ecl and other equipment supp Ontario Hughes-Owens Co egraph instruments of A and Co. make were supplie Oil Engine and Engineerir

Other equipment aboar includes John Hastie and steering gear, steam drive winches by Jackson Engi

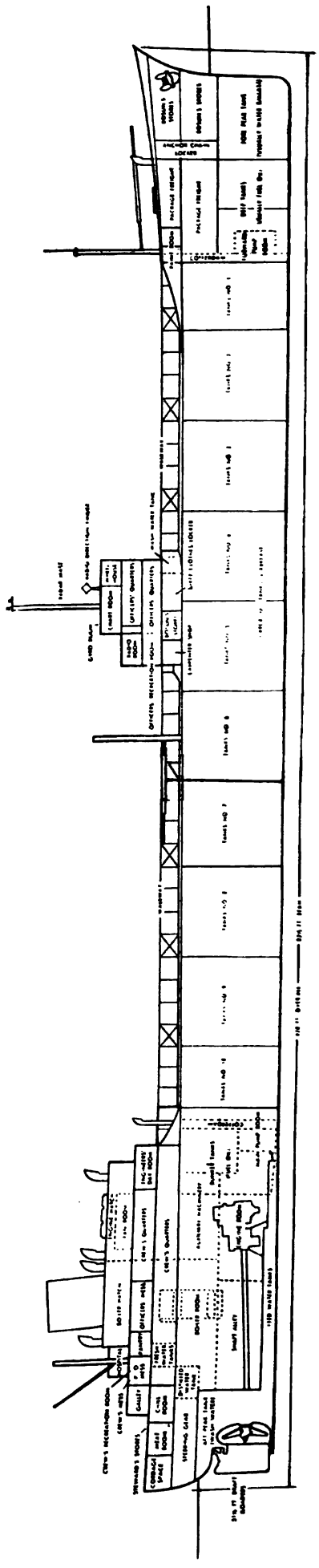
viz., on October 7, 18 and 28, and further sailings from Vancouver are scheduled for November 11 and 22, December 2, 13 and 30, January 17 and 31, February 14 and 28, March 14 and 24, April 4, 14 and 25, and May 5, 16 and 26.

Imperial Oil Supertanker Imperial Alberta

The huge oil tanker for ocean service which Imperial Oil Limited placed in operation last year, and which was described in illustrated articles in our May, 1949, issue, pg. 277, and in the February issue this year, pg. 102, continues to give a good account of herself. Recently, she made a series of trips from the Persian Gulf. The ship is 628 ft. long over all, with breadth of 82 ft. 6 in. Draft, loaded, is 31 ft. 6 in., deadweight tonnage is about 26,000, and displacement, loaded, is 33,700 tons. Cargo tank capacity is 228,000 barrels. Service speed is 16 knots. The accompanying drawing shows the arrangement of cargo tanks. The cargo is carried in 10 center tanks between longitudinal twin bulkheads, and 10 wing tanks to port and the same number to starboard. Four turbine-driven cargo pumps give the ship combined pumping capacity of 20,000 barrels an hour. Cargo suction lines are 14 in. in diameter.

The ship is driven by single screw, being powered by double reduction geared steam turbines with steam supplied by two water tube boilers, operating at 850 lb. pressure, with total steam temperature of 850 deg. A total of 12,500 s.h.p. is developed, and the propeller turns at about 100 r.p.m. Navigating equipment includes Gyrocompass, automatic steering, radar, depth recorder, direction finder and high frequency radio.

The ship was built by Sun Shipbuilding and Dry Dock Co., Chester, Pa.



The Imperial Oil Limited tanker, Imperial Alberta, in Elevation
This huge tanker, built for Imperial Oil Limited by Sun Shipbuilding and Dry Dock Co., Chester, Pa., is 628 ft. long overall, with beam of 82 ft. 6 in. She has capacity for 228,000 barrels of oil.

Canadian Vickers Ltd.

In the period August 17—September 16, Canadian Vickers, Ltd., launched a grab hopper dredge, designated P.W.D. No. 400, for the Dominion Public Works Department. On August 24, lightship No. 2, for the Dominion Department of Transport, ran her trial trips, and was delivered to the Department. During the period, five ships were drydocked for repairs, and 15 were repaired afloat.

In the period September 17-October 16, the company drydocked three ships for repairs, and carried out repair work on 18 ships afloat.

Newcomer to Montreal

A new ship arriving at Montreal on her maiden voyage in October was the ss. San Jose, owned by Compagnie General Transatlantique and with Furness Withy and Co., Ltd., as Montreal agent. She and the ss. San Pedro give service between France, Belgium and Canada, and operate to Saint John and Halifax in winter.

Big Lake

The month of November is for Pipe Line Tankers, Ltd., at Port Arthur. The new s

A preliminary description of the wo large oil tankers being built for 'ipe Line Tankers, Ltd., which com- ıany is to charter them to Imperial)il Limited for carriage of crude oil rom Superior, Wis., to Sarnia and ther oil-refining points on the Great .akes, appeared in our issue of Janu- ıry last, pg. 46, where an elevation trawing of one of the ships was pre- ented. The contract for one of the hips was awarded The Collingwood Shipyards, Ltd., Collingwood, Ont., nd that for the other went to Port Arthur Shipbuilding Co. Ltd., Port Ar- hur, Ont. Advice at time of writing, October 20, is that the ship being built at Collingwood, to be named Imperial Leduc, is scheduled for launching November 4, with Mrs. N. E. Tanner, wife of the Alberta Minister of Mines and Minerals, as sponsor. The launch- ing date for the ship being built at Port Arthur, to be named Imperial Redwater, has been tentatively sched- uled as November 18. The two ships will be fitted out during the coming winter and will be ready for service upon the opening of navigation in 1951, as the largest fresh water tankers in the world. Each ship will be 620 ft. long, with beam of 68 ft. and depth of 35 ft. Deadweight tonnage will be approximately 15,800, and capacity will be 115,000 barrels of oil. The ships will have a service speed of 13 knots, enabling each to make a round trip between Superior and Sarnia in five days. Power will be furnished by a 4,000 h.p. geared tur- bine installation, and each ship will carry a crew of 33. The launching of the Imperial Redwater at Port Arthur will be a ticklish job, for the reason that the launching slip is only 98 ft. wide, and as the ship, to be launch- ed sideways, is 68 ft. wide, clearance of only 30 ft. is left. The situation was described in more detail in our Sep- tember issue, pg. 530.

The 4,500 h.p. geared turbines for the ship, of Parsons type, will be supplied by The John Inglis Co., Ltd., Toronto, and the boilers by Foster- Wheeler, Ltd., St. Catharines. The ships will be fitted with navigation aids of most modern design, including Gyro-compass, radar, fathometer, dir- ection finder and ship-to-shore radio telephone. The powerful pumps with which the ships will be equipped will give them discharge capacity of 15,000 barrels an hour, and equipment is being installed at the pipe line termin- us at Superior to provide a loading rate of 20,000 barrels an hour.

Nova Scotia-Maine New Ferry

Plans for the construction of a ship at cost of about $3,000,000, for opera-

urers and Suppliers

-still wheel" hand brake is ary has been solved by the sion unit plan, as it is a simple sy job to convert old installa-

rican Car and Foundry Co.— Shippers' Car Line Corp.

ctive October 15, Samuel M. was elected President and Executive Officer of Shippers' Line Corp., according to an- ement by Charles J. Hardy, nan of the Board of American d Foundry Co., of which Ship- Car Line Corp. is a wholly- subsidiary.

Felton, who for the past five has been President of the can Railway Car Institute and to that was General Sales Man- f the Railway Division of the Company, succeeds the late Rob- gers. A native of Chicago and endant of a railroading family h both his father and grand- , Mr. Felton has spent most of siness life in the transportation He is chairman of the Industrial ory Committee of the Pan can Railway Congress, which n Mexico City in October. His is at Merion, Pa.

American Locomotive Co.

roup of 19 foreign railway ex- es from nine nations visited ectady, N.Y., shortly before ctober, under the joint auspices European Co-operation Admin- on and the Association of Ameri- ailroads, to learn at first hand locomotives are built for rail- in the United States.

as one of seven similar groups key railroad officials, represent- Marshall Plan countries, who touring the U.S. railways and y supply manufacturing plants. roup, brought to the U.S. under CA's Technical Assistance Pro- ne, was expected to take back American techniques which be applied to their own opera- overseas.



o Assumed New Positions Recently en made Vice-President in charge of ent in charge of Production; L. A. ordon, who is now Treasurer of the

At the Alco plant, the foreign railroaders heard a description of the Alco-GE line of locomotives and listened to engineers explain operating



Fraser H. Fargey, P.Eng., Sales Engineer, Brown Boveri (Canada), Ltd.

and maintenance practices on Diesel-electrics. Then the party members were taken on a tour of the General Electric plant, and after a luncheon given by Alco and GE at the Van Curler Hotel, they saw how locomotives are manufactured in Schenectady at the Alco plant.

Chairman of the group was Kenneth J. Cook of the British Railways, Western Region. Escort consultant accompanying them was W. M. English, from the A.A.R. Mechanical Division. Others in the party were Messrs. Antonia M. deAndrade, Portugal; Harald Benneche, Norway; Albert Bischoff, France; Alfons Brill, Germany; Francisco deAlemidae Castro, Portugal; Guiseppi Cavagnaro, Italy; Augusto F. deMorais Cerveira, Portugal; Robert R. Davouge, France; Sadum Erneli, Turkey; Ola Flones, Norway; Hans Harres, Germany; Roderic Francis Harvey, England; Jons Hegna, Norway; August Ingemar Janson, Sweden; Georg Kilens, Germany; Hellmut Kirschstein, Germany; Henri Malengreau, Belgium; Charles L. Tourneur, France.

Brown Boveri (Canada) Ltd.

Fraser H. Fargey, P.Eng., has joined Brown Boveri (Canada) Ltd., in Montreal, as Sales Engineer. Mr. Fargey is a graduate of the University of Manitoba and has had 14 years of practical experience in the electrical and mechanical engineering fields with several Canadian firms, including Aluminum Co. of Canada and Railway and Power Engineering Corp., Ltd.

Canadian Car and Foundry Co

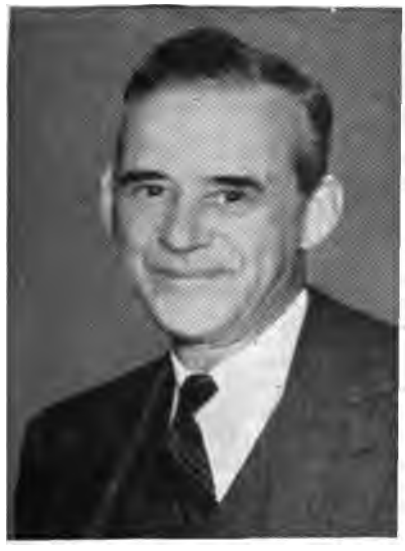
Four changes in executive po
in the Canadian Car and Foundr
Ltd., organization were record
an announcement made by the
pany early in October. A. Hodgk
formerly Comptroller and Trea
became Vice President in char
Finance. C. H. Drury, formerly
tant General Manager, became
President in charge of Produ
L. A. Bruce was appointed Com
ler, and K. S. Gordon, Treasure

Canadian General Electric Co.,

W. A. Williamson has been app
ed Manager of the Canadian Ge
Electric Co., Ltd., Vancouver Dis
according to announcement by H
Turner, President of the company
this position, Mr. Williamson is
sponsible for the sales and ser
organization in the company's of
and warehouses throughout Br
Columbia. He has held a numbe
important positions throughout C
ada in the company's service, his r
recent one prior to his appointmer
Vancouver having been as Manage
the Saint John, N.B., office. He
native of Toronto and graduated fr
the University of Toronto in 1
with the B.A.Sc. degree. After tak
the "Test" training at Peterborou
he served for a number of years
Trail, B.C., and for a time was Sa
Engineer at the Toronto head offi
for heavy electrical equipment
utilities. He was transferred to Sa
John in 1946, and became Manager
the Saint John office in 1947.

Canadian Locomotive Co., Ltd.—T
Canadian Fairbanks-Morse Co. Lt

J. J. Jarrell, Vice President a
General Manager, Canadian Locon
live Co., Ltd., announces the open
of a district sales office at 980
Antoine St., Montreal, and the
pointment of Hector A. Dale as D
rict Sales Manager. Mr. Dale v
ormerly with The Canadian Fa
banks-Morse Co., Ltd., for 30 yea



J. Nelson Hunter,
ho was Purchasing Agent, Combus
n g i n e e r i n g Corp. Ltd., and who
suddenly on August 24.

cup at the company's St. Thomas plant.

Vapor Heating Corp.

Harry F. Lowman, who for 37 years was a special representative for Vapor Heating Corp., Chicago, stationed in Washington, D.C., where he was well known in railway circles, died October 18.

Petroleum Products On Great Lakes

In view of the approaching completion of the pipe line to carry crude oil to the head of the Great Lakes, and the entry into service next spring of the two large tankers being built for Pipeline Tankers, Ltd., a reference to the bulk trade in petroleum products on the Great Lakes, in the annual report of the Lake Carriers' Association for 1949, is of particular interest. In this connection, the report states as in the following.

Highlighting what otherwise developed into a distinctly retrogressive season insofar as Great Lakes transportation was concerned, shipments of petroleum and its derivatives were at an all-time high. Although earlier estimates had suggested a season about the same as in 1948, actual statistics, when compiled, showed that lake shipments of tanker products were largely in excess of any earlier season at 12,607,278 net tons, the equivalent of 92,133,141 barrels of 42 gallons. This represented an increase in tonnage of 15.06% and in barrels of 17.04% over the prior year's record.

Notable is the fact that the new peak was achieved by a fleet substantially the same as in 1948, the Association's data showing that 54 vessels of United States registry and 40 ships of Canadian registry participated in the lake trade. The United States total included 27 barges primarily engaged in the transportation of petroleum products between the New York refining area and Great Lakes ports via the New York State Barge Canal.

During the season, a total of 1,067,711 tons of petroleum products passed through St. Marys Falls Canal, as compared with 1,022,967 tons in 1948.

Westbound shipments through the New York State Barge Canal continued in large volume, although the total of 2,487,136 net tons was 834,099 tons less than shipments in 1948, when that phase of the trade aggregated 72.3% of total Barge Canal traffic.

Of future import was the placing of contracts by an affiliate of Imperial Oil Limited with Canadian ship builders for the construction of two tankers, each having capacity of 115,000 barrels and scheduled for delivery in 1951. These vessels will participate in the transportation of crude oil from the Alberta field to Sarnia district refineries.

The oil will be loaded into vessels at Superior, Wisconsin, from a terminal located on the former Northern Pacific scrap dock. Delivery to that port will be made by a 1,150-mile pipeline traversing the Canadian Provinces of Alberta, Saskatchewan, and Manitoba, as well as the northwest part of Minnesota. The importance of Alberta fields as a major petroleum reserve was increased during 1949 by additional drilling of wells and discovery of new productive areas and formations. It is therefore possible that the character of tanker transportation on the Great Lakes may be permanently altered and a definite trend towards larger units established.

A tabulation indicating the season's shipments, covering each year during the period in which data has been compiled, is shown herewith.

	Ships	Net Tons	Barrels
1941	67	9,387,060	68,948,523
1942	67	8,939,795	66,232,597
1943	81	9,449,867	70,401,519
1944	70	10,195,912	73,854,355
1945	69	9,363,709	68,001,989
1946	72	10,217,291	73,632,119
1947	81	10,145,100	73,964,113
1948	93	10,955,745	78,720,070
1949	94	12,607,278	92,133,141

Churchill Port Traffic

Manitoba's Port Churchill, on Hudson Bay, has chalked up a new record for both import and export shipping, according to records of the Canadian National Railways, which serve the northern port. This year, twenty ships arrived and departed from the harbour, taking 6,767,743 bushels of wheat with them. In 1949, 16 ships handled 5,527,534 bushels. Three of the incoming ships carried 2,383 short tons of imports, including 204 automobiles, 385 tons of machinery, 448 tons of other iron and steel products, 918 tons of glass and many tons of other merchandise. Apparently the popularity of curling as a recreation is growing in this country, for among the imports arriving were 26 tons of curling stones.

According to the records of the Board of Grain Commissioners for Canada, the elevator at Churchill held 397,919 bush. wheat and 703 bush. oats at October 5, at which date the shipping season for this year had closed.

New Ferry, North Sydney-Port aux Basques

An Ottawa press dispatch quotes the Minister of Transport, Mr. Chevrier, as saying that the Dominion Government is to undertake construction of a new ferry to operate between North Sydney, N.S., and Port aux Basques, Newfoundland. The dispatch indicated that the decision to build the new ship has been contingent upon the date of completion of the new highway between Port aux Basques and St. John's. It was stated that the Newfoundland Government had advised the Dominion authorities that the highway will be ready for operation next year.

ASSOCIATIONS, CLUBS, MEETINGS

The names of the persons mentioned are those of the secretaries, unless otherwise stated

Air Industries and Transport Association of Canada—R. N. Redmayne, 610 Blackburn Bldg., Ottawa.

Air Transport Association of America—M. F. Redfern, 1107 Sixteenth St., N.W., Washington.

American Association of Baggage Traffic Managers—E. P. Soebbing, 1450 Railway Exchange Bldg., St. Louis, Mo.

American Association of Passenger Traffic Officers—B. D. Branch, Secretary-Treasurer, 143 Liberty St., New York 6.

American Association of Port Authorities—Paul A. Amundsen, 815 Washington Bldg., Washington 5, D.C.

American Association of Railroad Superintendents—Miss Elise LaChance, 431 S. Dearborn St., Chicago, 5.

American Railway Bridge and Building Association—Miss Elise LaChance, 431 S. Dearborn St., Chicago, 5.

American Railway Development Association — E. L. Beardsley, Secretary-Treasurer, The D & RGW RR. Company, P.O. 2040, Denver 1, Colo.

American Railway Engineering Association—N. D. Howard, 59 E. Van Buren St., Chicago, 5. Annual meeting, March 13-15, 1951.

American Society for Testing Materials—C. L. Warwick, 1916 Race St., Philadelphia 3, Pa. Annual meeting, June 18-22, 1951, Atlantic City, N.J.

American Society of Mechanical Engineers—Railroad Division Chairman, K. A. Browne, Chesapeake and Ohio Ry. Co., 3305 Terminal Tower, Cleveland 1, O. Secretary, E. L. Woodward, Western Mechanical Editor, Railway Age, 79 Monroe St., Chicago 3. Annual meeting, November 28-29, 1950, Hotel Statler, New York, N.Y.

American Society of Tool Engineers—J. M. Cannon, Director of Public Relations, 523 Penobscot Bldg., Detroit, 26, Mich.

American Transit Association—A. W. Baker, 292 Madison Ave., New York 17, N.Y.

American Wood-Preservers Association—H. L. Dawson, 839 17th St. N.W., Washington 6. Annual meeting, April 25-26, 1951, Chicago, Ill.

Association of American Railroad Dining Car Officers—W. F. Ziervogel, 605 S. Rankin Ave., St. Louis 3, Mo.

Association of American Railroads—Headquarters, Washington, 6, D.C.—Officers: W. T. Faricy, President; J. Carter Fort, Vice President and General Counsel; G. M. Campbell, Secretary-Treasurer, and Operation and Maintenance Dept.—J. H. Aydelott, Vice President, Washington, 6.

Operating—Transportation Division, L. R. Knott, Executive Vice Chairman, 59 East Van Buren St., Chicago 5.

- Operating Section, J. C. Caviston, 59 East Van Buren St., Chicago.
- Transportation Section, H. A. Eaton, 59 E. Van Buren St., Chicago.
- Communications Section, A. H. Grothmann, 59 East Van Buren St., Chicago.
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- Freight Station Section, W. E. Todd, 59 E. Van Buren St., Chicago.
- Medical and Surgical Section, J. C. Caviston, 59 East Van Buren St., Chicago.
- Protective Section, J. C. Caviston.
- Safety Section, J. C. Caviston.
- Freight Loading and Container Section, G. H. Ruhle, 59 E. Van Buren St., Chicago.

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Montreal. Western Lines: Roy H. Powers, Secretary, 320 Union Station, Winnipeg.
Railway Supply Manufacturers' Association—A. W. Brown, 60 East 42nd St., New York, 17, N.Y.
Shipping Federation of British Columbia—G. E. McKee, General Manager, 45 Dunlevy Ave., Vancouver.
Shipping Federation of Canada — C. T. Mearns, 300 St. Sacrament St., Montreal. Annual meeting, third Wednesday in Marcn.
Toronto Passenger Club—Lyle Michie, Chicago, North Western Ry., Royal Bank Building, Toronto.
Toronto Railway Club—D. L. Chambers, P.O. Box 8, Postal Terminal A, Toronto. Meetings at Royal York Hotel, Toronto, fourth Monday of each month, except June, July and August. Annual meeting, Royal York Hotel, January 21, 1951.
Traffic Club of Hamilton—A. M. Johns, 4 King Street West, Hamilton, Ont. Meetings on second Thursday of each month, October to May. Annual meeting, December 14, 1950.
Traffic Club of Montreal—W. S. McConkey, Hon. Secretary-Treasurer, P.O. Box 433, Montreal. Meetings at Mount Royal Hotel, October to May. Annual meeting, third Wednesday in May.
Transportation Club of Toronto—W. G. Hamilton, Chief Clerk, Freight Claims Office, C.P.R., Simcoe and Wellington Sts., Toronto. Annual meeting, December 7, 1950, Royal York Hotel, Toronto.



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DRY DOCKS
STRUCTURAL STEEL WORK
DREDGING AND GENERAL ENGINEERING

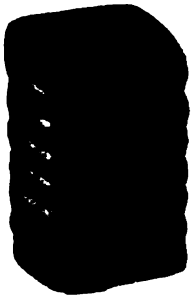
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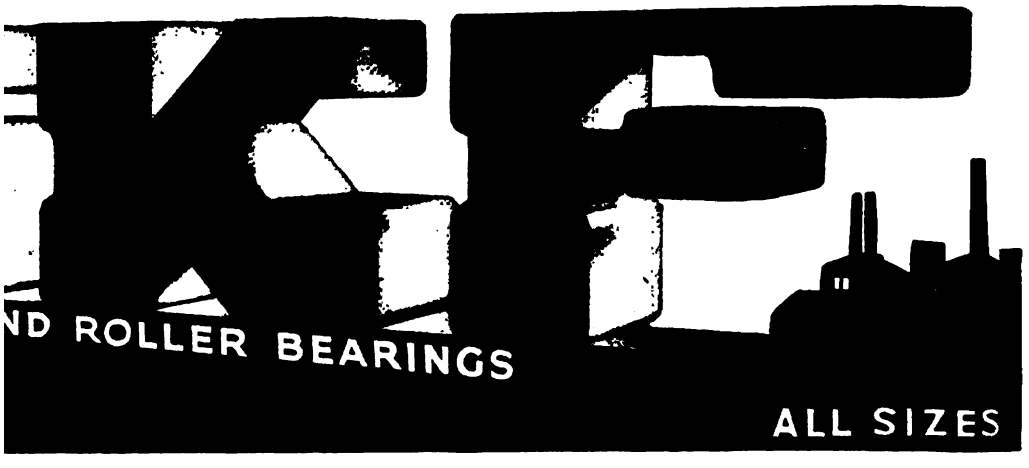
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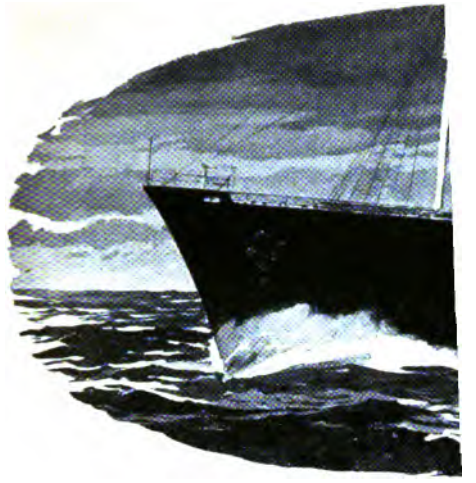
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Talk with the captain of any craft equipped with Sperry Radar...ocean liner, cargo vessel, tow, ferry, tanker, yacht or fishing boat. Hear from his own lips how much easier it is to operate on schedule in every weather,

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DIVISION OF THE SPERRY CORPORATION, GREAT NECK, NEW Y
THE ONTARIO HUGHES OWENS CO., LIMITED, OT

INSPECTION 1840

Back in 1840, when bolts were first produced mechanically, it is said that the buyer would test the quality of such a bolt by biting it.



makes a lt better ?



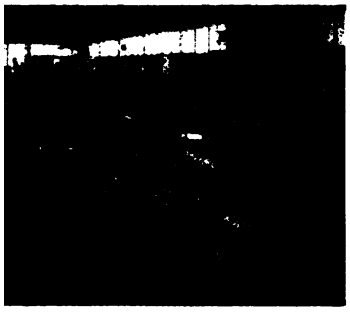
1 PRODUCTION

Stelco bolts and nuts are produced from the finest materials by expert craftsmen.

luring close reads, il.

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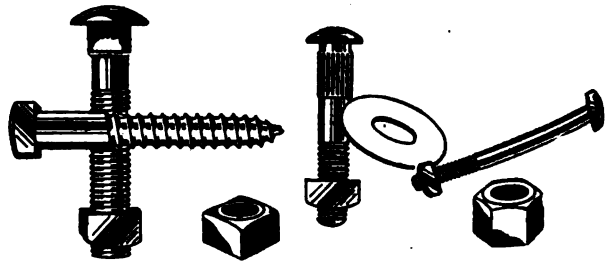


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The passing years have brought big changes in both manufacturing and buying practices.

Instead of biting the bolt, the wise buyer, nowadays, looks for the name "Stelco". No further assurance is ever needed. Because the Stelco trademark guarantees the quality, the uniformity, the top value, made possible through Stelco's long experience and the most modern production methods.



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TODAY—499 Whitin
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This alone is a testimon
Drop Tables have been c
even before the days of th

Another proved desig
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OLD hands at dirt-moving, choose new Internationals. When Rayner Construction Company, Toronto, commenced their big "cut and cover" contract on "Canada's first subway," it was with new Internationals to truck the muck and dirt.

Toronto watches its five-mile subway dream come true as Rayner's proud fleet of twenty International LF-190's — hefty six-wheelers with ten-yard dump bodies, ease their ponderous loads up the steep ramps — speed away two miles to the fill—and get back for more, fast as the gluttonous shovels can dish it out.

And the owners aren't the only ones happy about the extra-value performance of these new *heavy-duty engineered* Internationals — operators are enthusiastic too. They like the new kind of comfort and ease of handling that new Internationals bring. They like the "working conditions" in that new, roomy Comfo-Vision cab.

Yes, those comfortable cushions—that one-piece, curved sweepsight windshield — that super-steering, have meant a new deal in comfort and safety for truck drivers!

How about letting new International Trucks handle your hauling? Remember, no matter what trucking problem you face — whether you haul dirt or deliver groceries — there's a *heavy-duty engineered* International truck specialized to do your jobs better and save you money. Get in touch with your International Dealer or branch for all the facts *now.*

INTERNATIONAL TRUCKS ARE MADE IN CANADA AT HARVESTER'S CHATHAM WORKS, CHATHAM, ONTARIO



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ERNATIONAL INTERNATIONAL **TRUCKS**

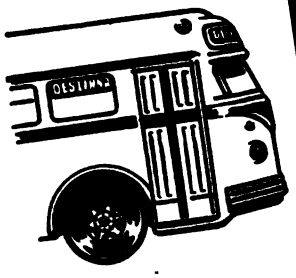
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DESTINATOR

NEW SIGN OF THE TIMES
ENGINEERED 10 WAYS BETTER



Now, out of the vast experience of Electric Service engineers, in developing and installing signs in practically all types of public vehicles, comes the latest development in signs . . . THE DESTINATOR, designed, developed, tested, and engineered 10 ways better for more efficiency, longer life, and quieter operation.



THE DESTINATOR has been made possible by the up-to-date facilities of Electric Service . . . most modern in the industry for development and testing. Cloth testing proved its tensile, tear and resistance strength. Accelerated ultra-violet ray tests proved its resistance to exposure. Weather and water tests . . . binding tests . . . printing and visibility tests . . . stepped-up usage tests—all bring the bus transportation industry the best sign ever made available.

Sign up your vehicles with THE DESTINATOR and you'll step up your passenger satisfaction.



As Canadian Representatives of Electric Service Manufacturing Co., we are pleased to introduce this new Destination Sign, now in production and promptly available. Write for fuller information, and copy of folder "Tell 'Em Where You're Going" to—

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Canadian Distributors for

ELECTRIC SERVICE MANUFACTURING CO., Philadelphia

It's a Fact...

A century ago, Canadian track gauges varied from 3'6" to 5'6". The 5'6" gauge was adopted as standard in 1850, and in the 70's this was finally changed to 4'8½" to conform to the gauge commonly used on U.S. lines.

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If the 24,178 miles of the C.N.R.'s first main track were strung out, the line would fall barely short of encircling the earth at the equator. The C.N.R. is not only North America's largest railway system but the largest individual purchaser of materials and supplies in Canada.

It's a Fact...



DULUX and other C-I-L Transportation Finishes keep equipment looking shop-new long after ordinary finishes have failed.

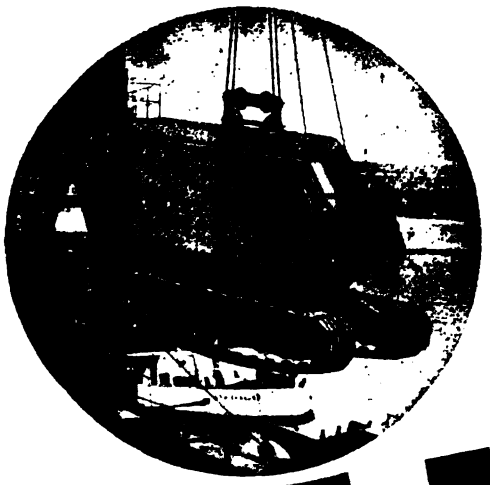
C-I-L Transportation Finishes are tough and durable . . . made to *TAKE IT*. Easily applied and quick-drying, they help to cut maintenance costs and reduce shop time to a minimum.

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SERVING CANADIANS THROUGH CHEMISTRY



"THEY'VE BEEN WORKING ON THE RAILROAD!"

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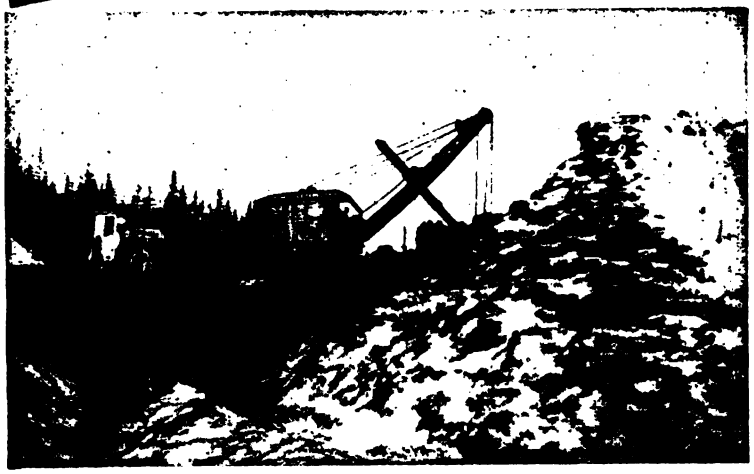
LAST YEAR we published the picture above—one of four D H & S 450 Machines being loaded for Havre St. Pierre on the St. Lawrence.

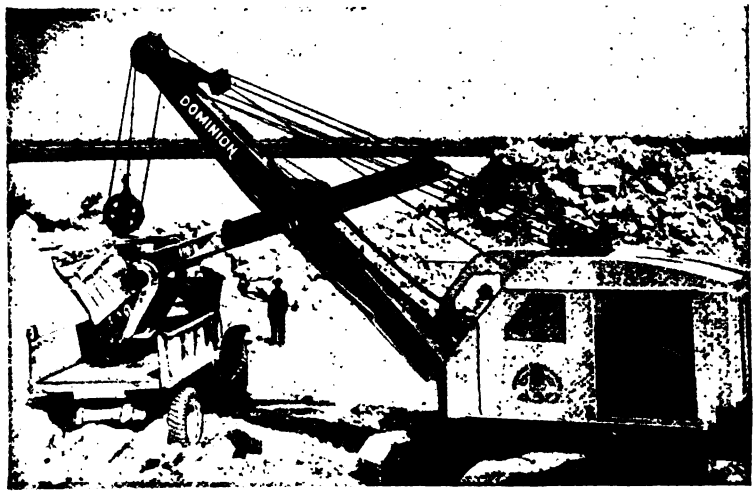
Here (at right) they're on the job—removing rock, and grading the new 27-mile railroad to the great titanium ore development.

For such tough work you can always depend on rugged, Canadian-built D H & S Machines. You are assured of sustained high output and low maintenance.

Write for descriptive bulletins and further information to P.O. Box 220, Montreal.

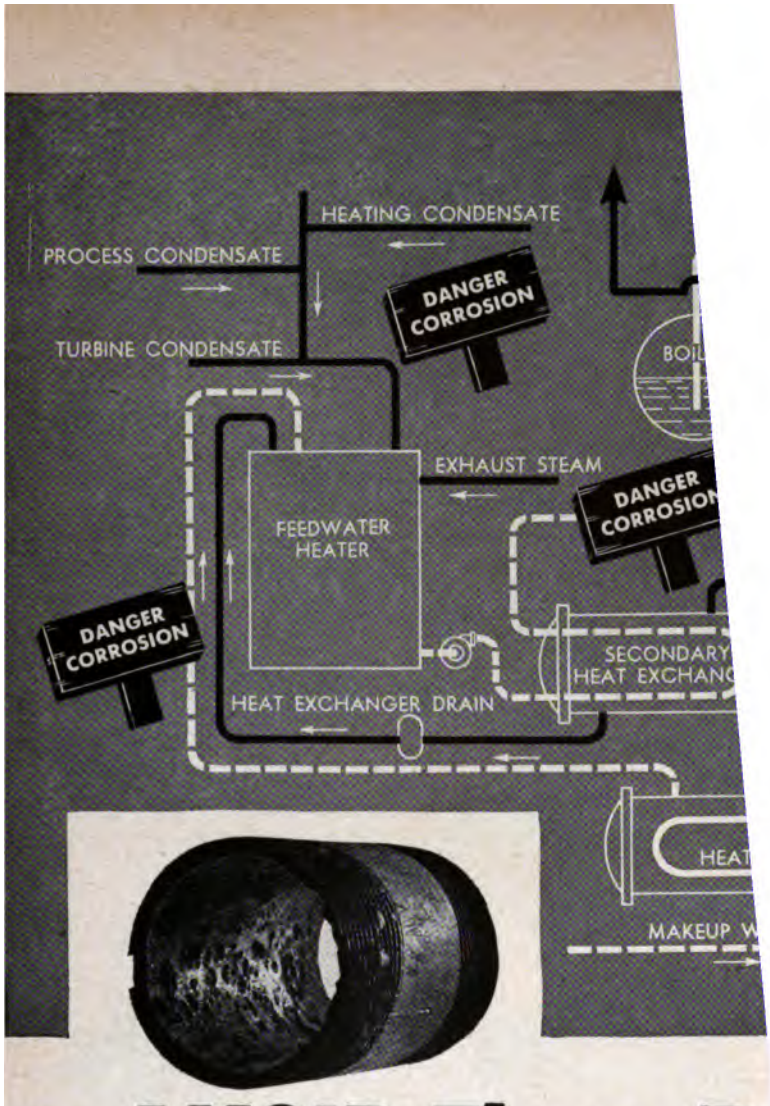
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AVOID These D

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CORRODED condensate return lines lead to expensive pipe replacement and maintenance. As an added annoyance, the solid products of corrosion often plug return lines and fill traps. You can steer clear of these troubles by using the *effective, economical* Bird-Archer Amine Treatment.

HERE'S THE WAY THIS B-A TREATMENT WORKS

Amines are fed into the boiler or into the steam and condensate systems. The amines raise the pH value of the condensate and also tend to inhibit equipment-destroying corrosion through surface protection of the n

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Raising the pH value of th severely decreases maintena eliminating corrosion. Th may more than offset the treatment required to pro tion for your equipment.

NEW BULLETIN gives full the Bird-Archer Amine Trea contains case histories that successful application in ma *Write for your copy today.*

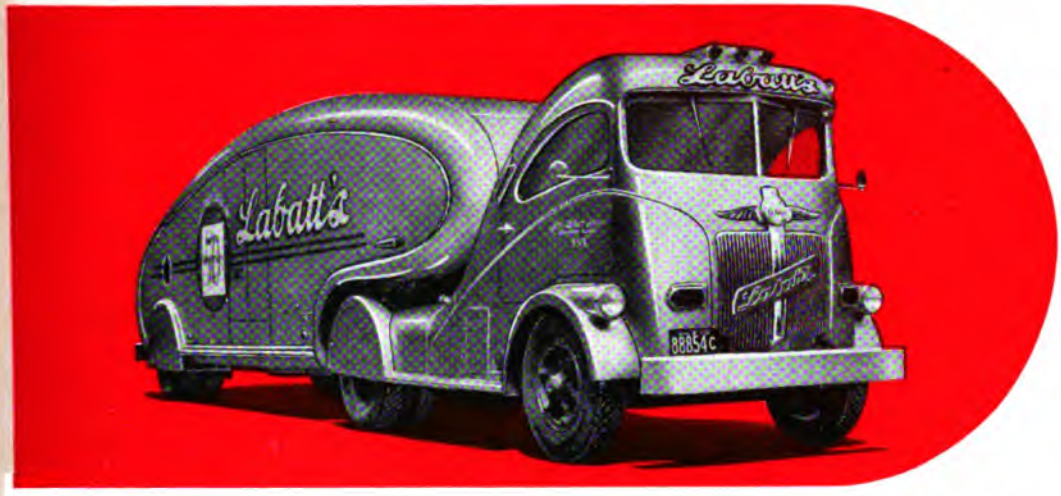
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WATER TREATMENT

THE BIRD-ARCHER CO., LIMITED • 503 McGILL BUILDING, MONTRI

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A 125-Horsepower Billboard

THAT MAKES AN IMPRESSION



It will be a good impression if you have a DeVilbiss Complete Paint Shop

Pre-sell your company's good name to people who know you only by seeing your trucks on the road. Re-sell your company's reputation to regular customers who see your trucks often. Neat-looking, well-maintained trucks help sell your company, help sell your product.

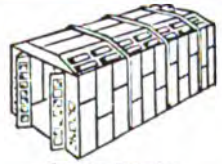
In the well-lighted, well-ventilated DeVilbiss Complete Paint Shop, your maintenance men can turn out professional repaint and maintenance jobs right on schedule. There's no danger or annoyance from paint fumes floating into the rest of the shop, nor of dirt marring fresh-finished surfaces. The DeVilbiss Complete Paint Shop includes: DeVilbiss Air Compressors, specially designed to give you even more air for your money . . . DeVilbiss Spray Guns which are preferred by the majority of professional painters . . . DeVilbiss Hose, fabricated to stand up under severe spray painting service. All the other accessories included in this modern paint shop are made by DeVilbiss —leading manufacturer of spray-painting equipment.

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Spray Guns


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IN ANY MAN'S MONEY NO!
BECAUSE . . . Reo's "More-Load" design saves time in turning, time in parking, saves on tires, and above all gives you more pay-load per inch of wheelbase.
BECAUSE . . . Reo's revolutionary new "Gold Comet" engine gives more power for its size than any other gasoline truck engine. Saves on fuel and cuts down deadweight.
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For demonstration of the new Reo see your local Reo dealer or write Reo Motor Company of Canada Ltd., Leaside, Toronto
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BUILT, SOLD AND SERVICED IN CANADA



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From the beginning of history, the
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patterns of a nation's progress—an
highways are making a greater cor
than ever to continued progress becau
development of the modern motor co

Now comfortable, convenient and l
transportation has been made availa
everyone. Modern bus lines form the reg
and often the only—link between cou
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In the provinces of Quebec and Ontario,
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For service, comfort and
from the White Empress I
the stately Empress of Ca
or Empress of Scotland. I
fully appointed stateroom

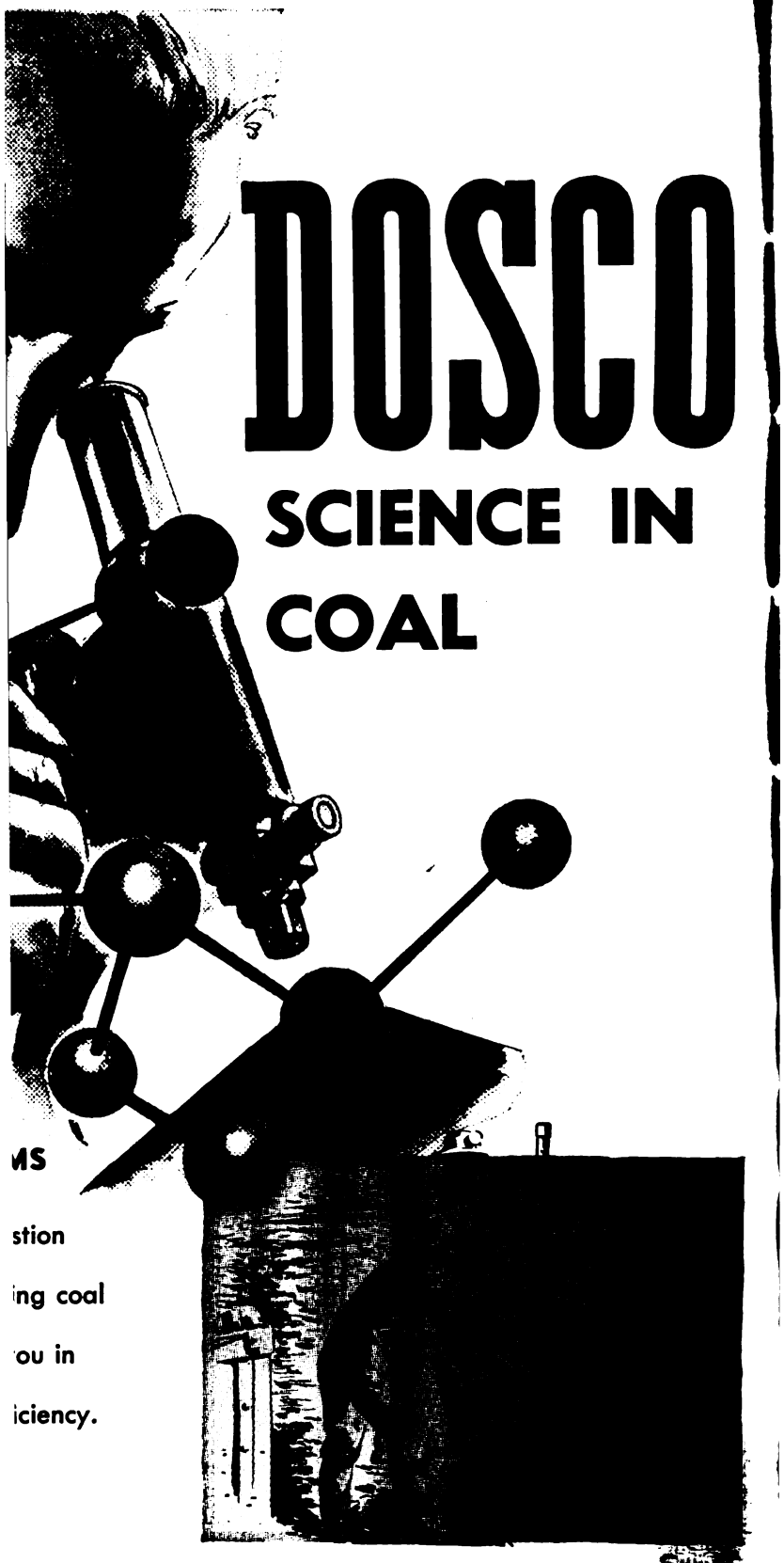


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Empress of Scotland	$25
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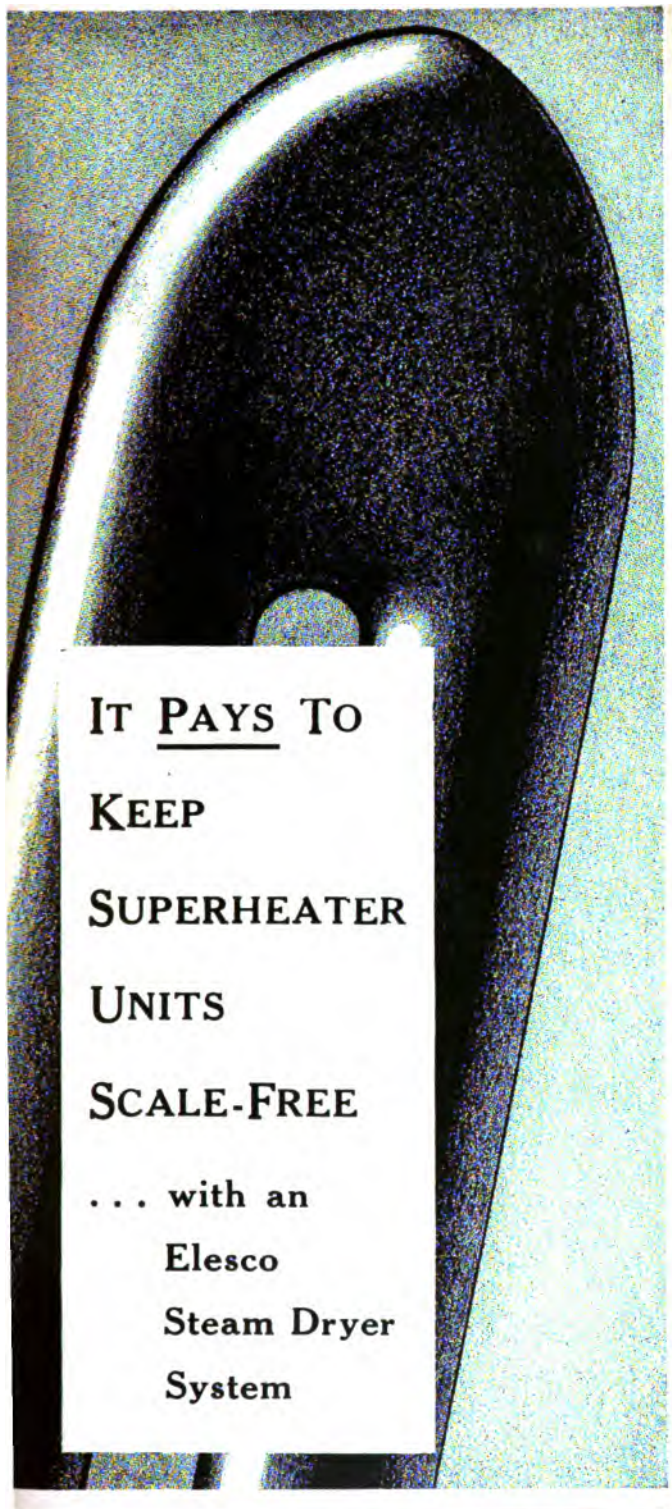
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November 28, 1949

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to some extent before our salesmen
believe this helps enormously in making
time more productive.

Yours very truly,

MINNEAPOLIS-HONEYWELL REGULATOR CO. LIMITED

General Manager



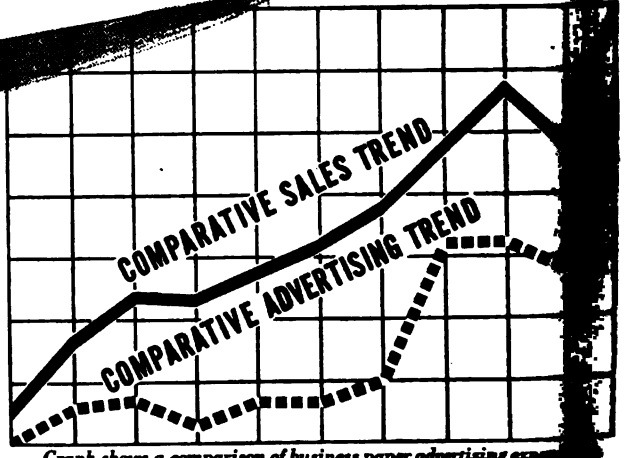
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General Manager
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time more productive,
elps enormously!" So
General Manager of
the letter above.

facturing and process
intains offices at Lea-
innipeg, Calgary, and
business paper adver-
al way—and often the
prospects. How their
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publications, serving
and industry. One or
R prospects, economi-



Graph shows a comparison of business paper advertising expe
and gross sales figures, during the 10-year period 1939 — 1
Minneapolis-Honeywell Regulator Co. Ltd., Leaside, Ontario.

The emblem that identifies BNA *business papers of cl*

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IMMEDIATE DELIVERY FROM STOCK

FOR

C.C.F. BRILL MODEL C-36 (FRONT)

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over 90% renew
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RENEWAL PARTS

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TROLLEY COACHES

keep your equipment running smoothly

CANADIAN GENERAL ELECTRIC CO LTD

HEAD OFFICE TORONTO
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49-EL-1

BOWSER HIGH CAPACITY FUELING UNITS

Made in Canada

FOR RAPID REFUELING OF BUSES, TRANSPORTS, TRUCKS

USED BY

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These neat, compact and reliable units by the "Makers of America's finest engineered pumps" are distinctive both in appearance and performance. The Bowser standard of high quality guarantees accurate measurement and efficient operation.

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For Trucks, Buses, Commercial Garages, Service Stations, Taxi Cabs, Industrial Plants. Offers a sure means of exercising complete control over liquids bought or used. Operation is positive, and printing is automatic, providing accurate and uniform records.



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and Alloys

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Dependable
GENERAL ELECTRIC
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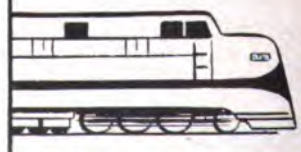
All PCC cars manufactured in Canada are inspected and tested by WARNOCK for tramway companies.



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Malleable Castings of Fine Quality

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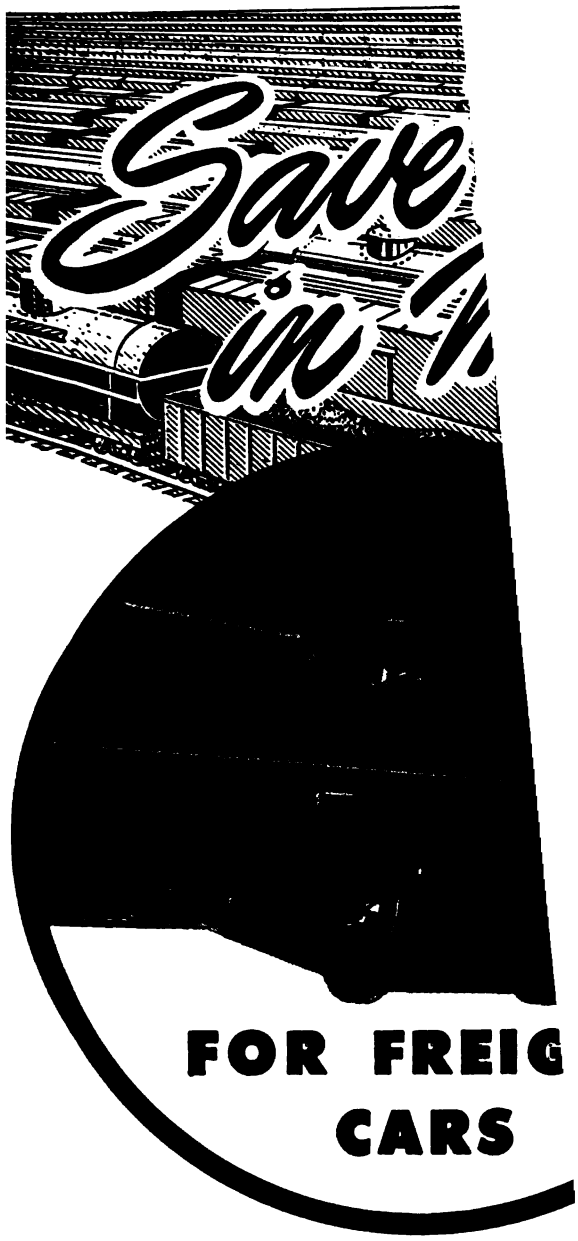
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No mounting brackets required.

STURDY CONSTRUCTION
Shock resisting materials used throughout. Built for the life of the car.

MINIMUM MAINTENANCE
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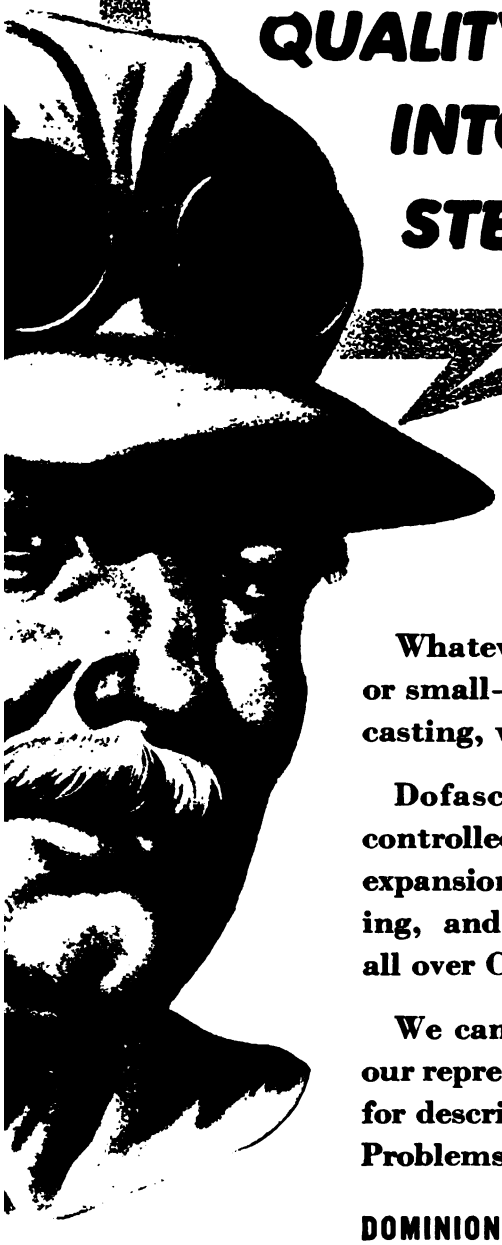
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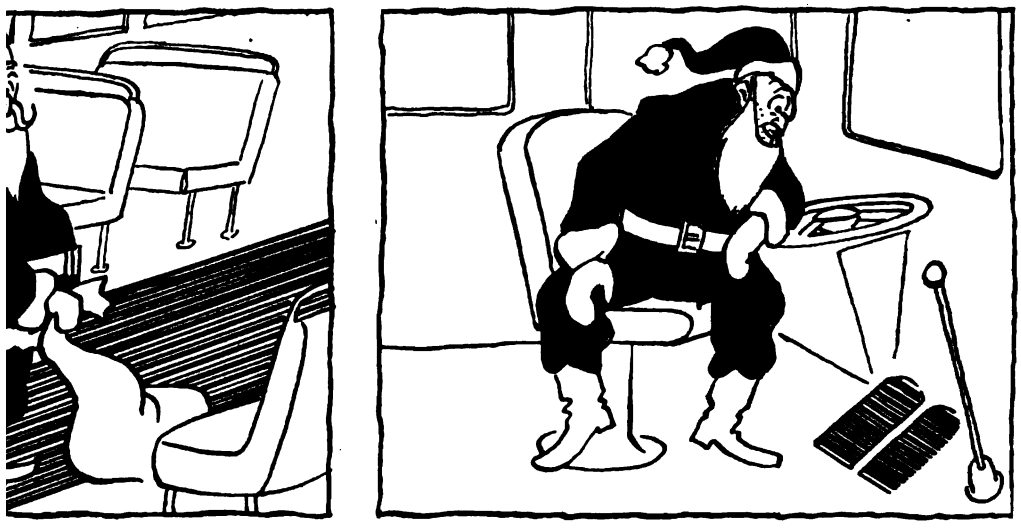
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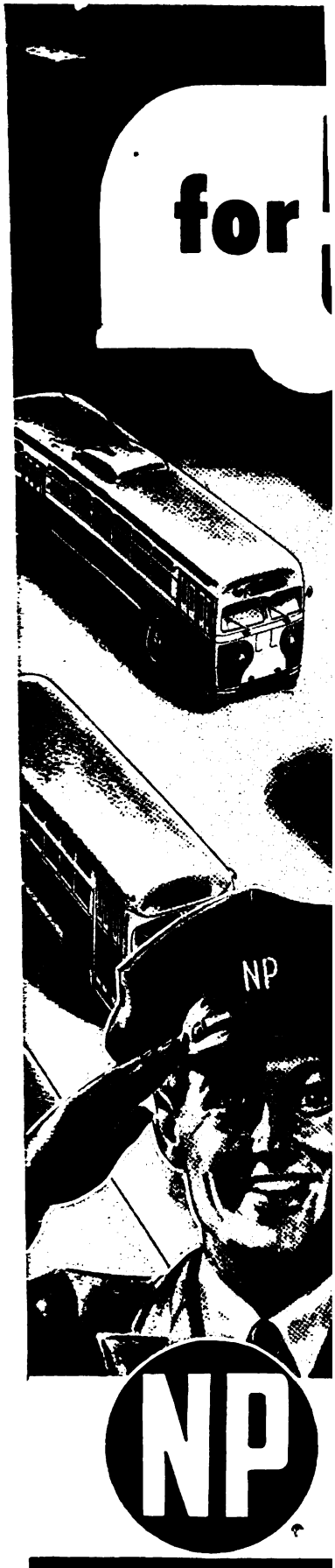
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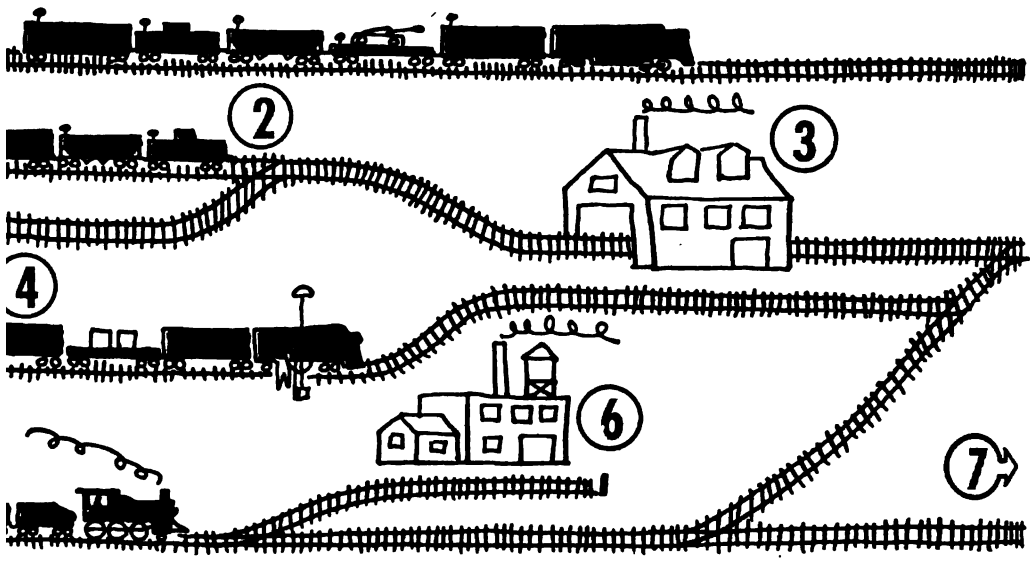
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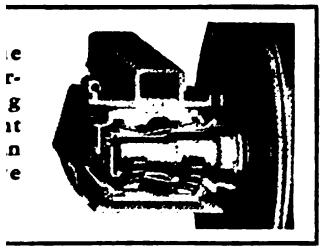
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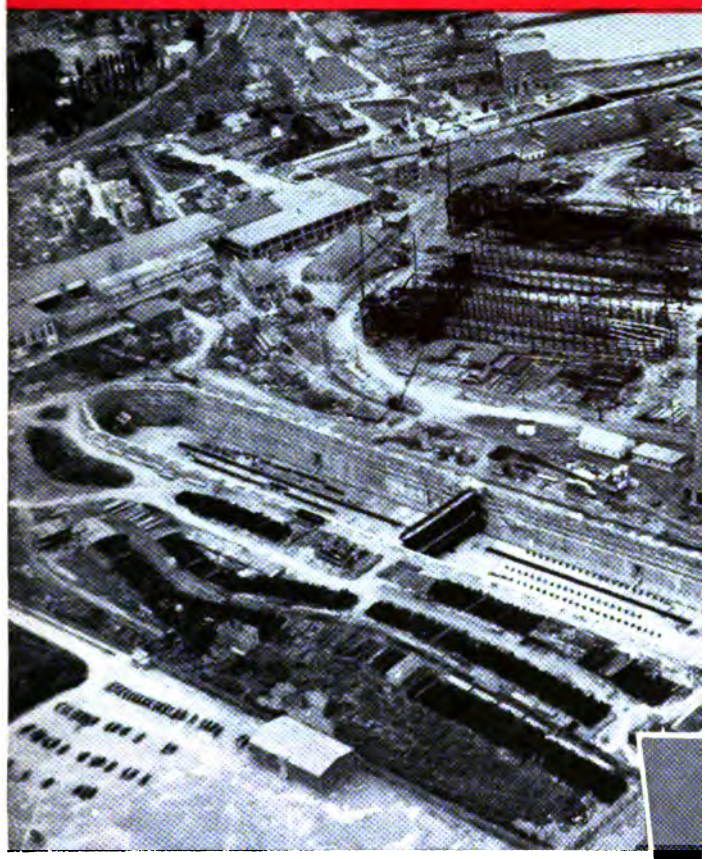
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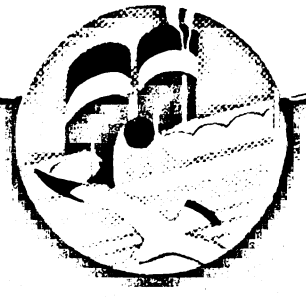
Aerial view of Davie Shipbuilding and Repairing Company Limited, situated on the St. Lawrence at Lauzon, Que.

MANY A SHIP, on her maiden voyage, has slipped away from the Davie Shipyards bearing the flag of a friendly nation. And ships from many countries have found safe harbour in this big centre—where everything from a minor repair job to a major operation can be performed, either afloat or in drydock.

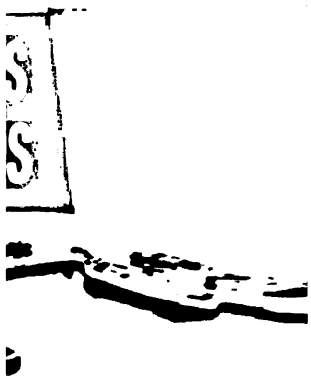
Cargo vessels, tugs, barges, fishing boats, oil tankers, luxury cruisers—and now a $5,000,000 steam icebreaker for the Canadian Department of Transport—are among the ships produced at Lauzon for Canadian and foreign peacetime trade. During the war, a mighty fleet of warships

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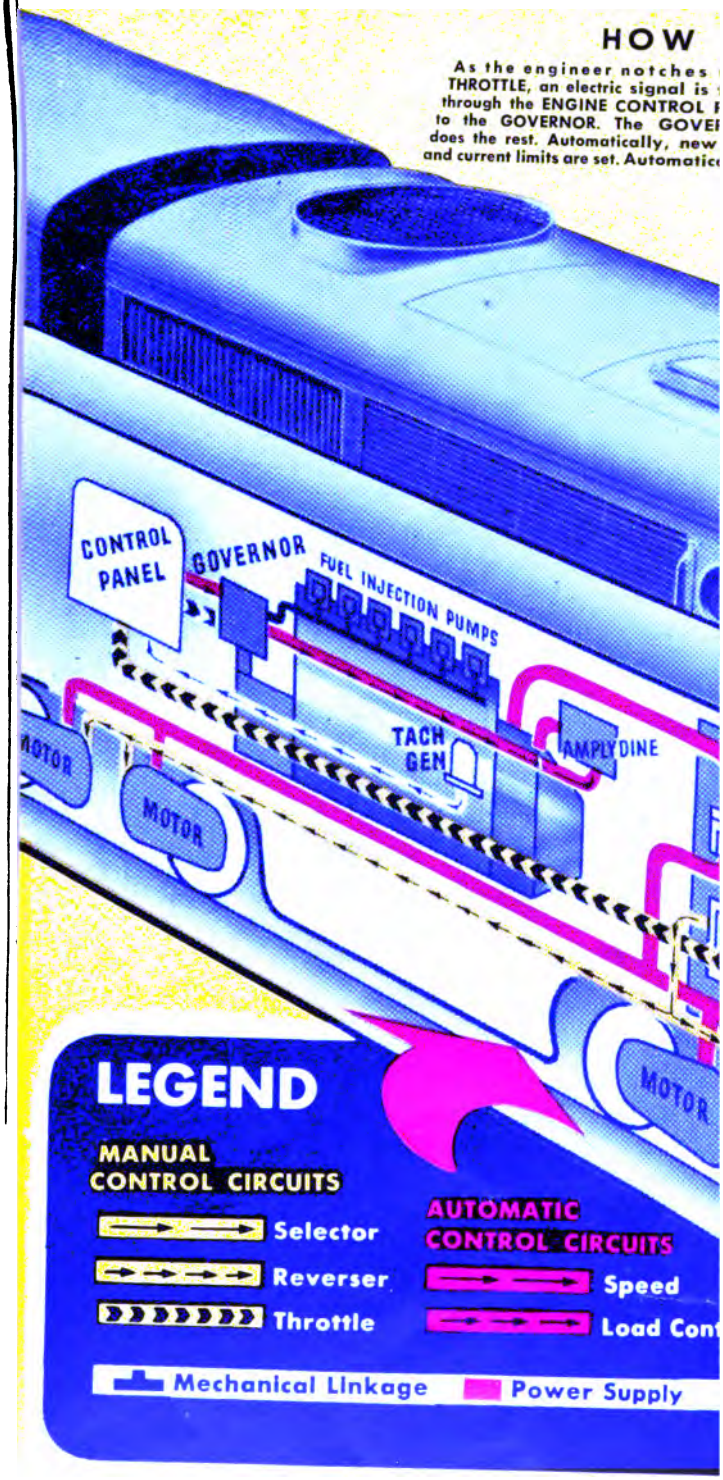
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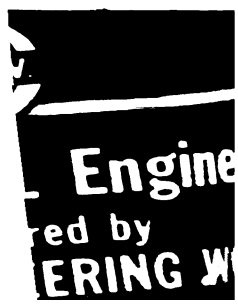


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Manufactured by
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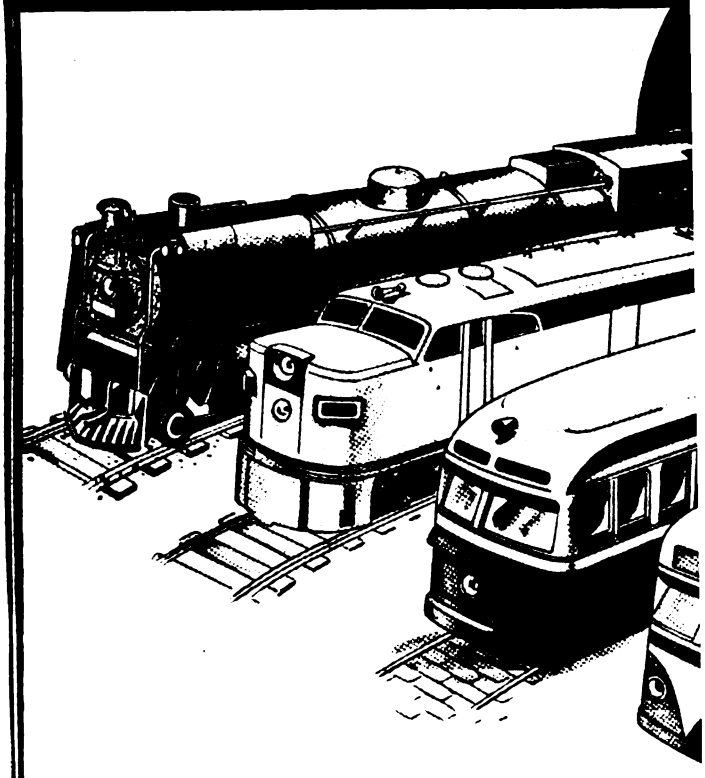
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What makes a bolt better?



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Stelco bolts and nuts are produced from the finest materials by expert craftsmen.



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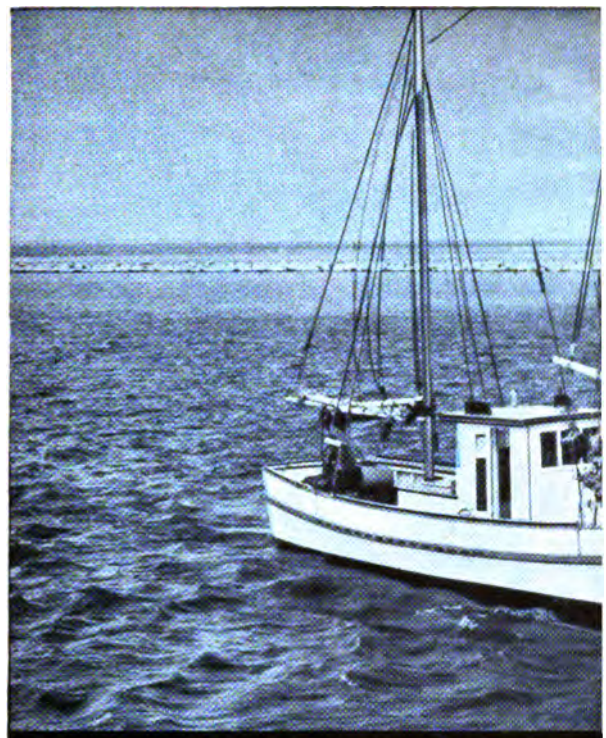
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They're so clean
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Series 71 Diesels.

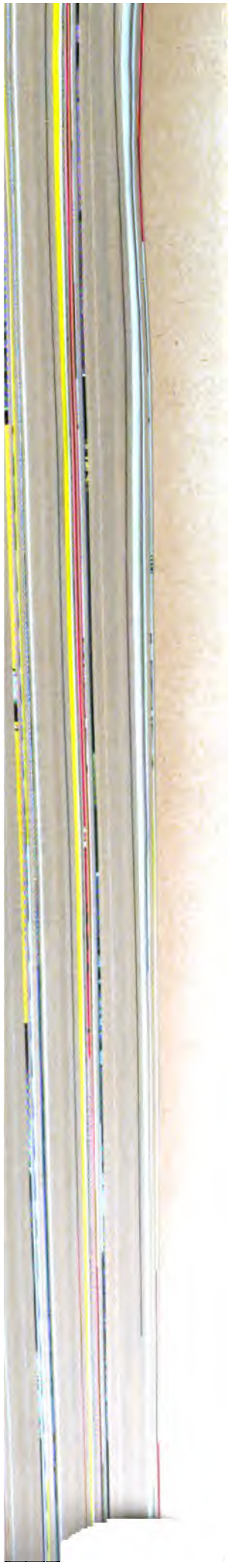
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The Pullman-Standard trac
handled by one man—breaks
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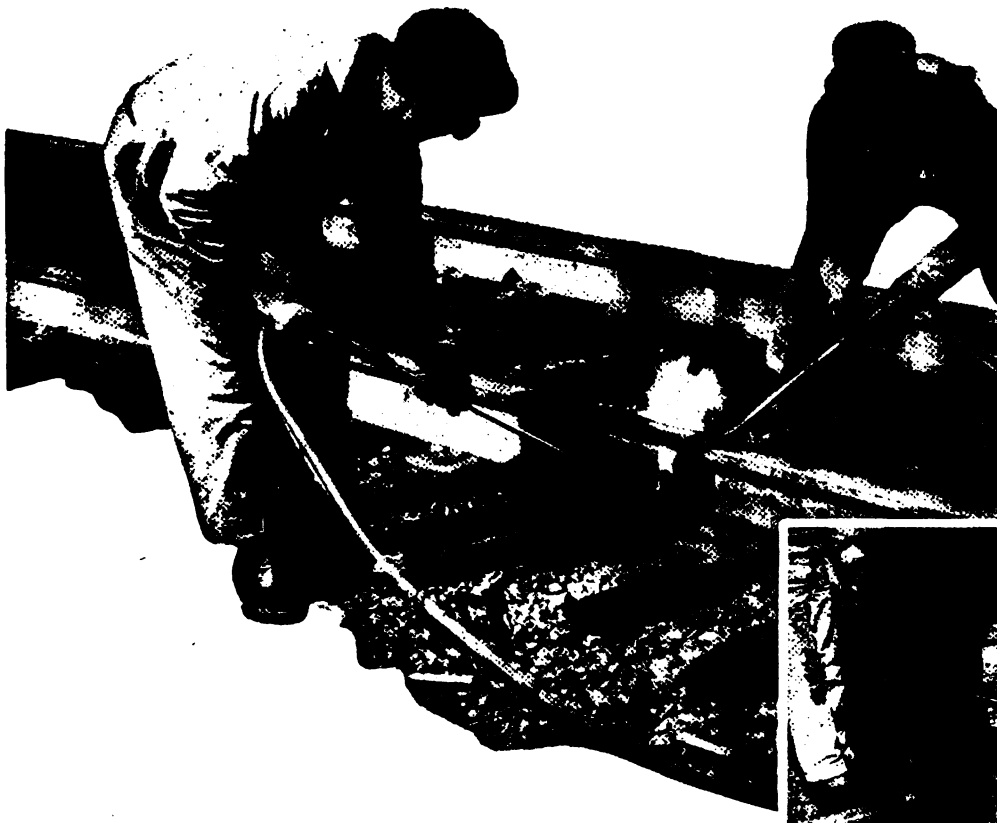
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Here's how to elimi
"Frozei





1. Use the oxy-acetylene flame to loosen mill scale, and drive out moisture from around the joint area.

2. Next wire-brush the area to remove the loose scale.

3. Then paint the area with a good lubricant.

Now, these clean joint areas—free of troublesome mill scale—will discourage joint bars from "freezing to the rail" and will require less maintenance.

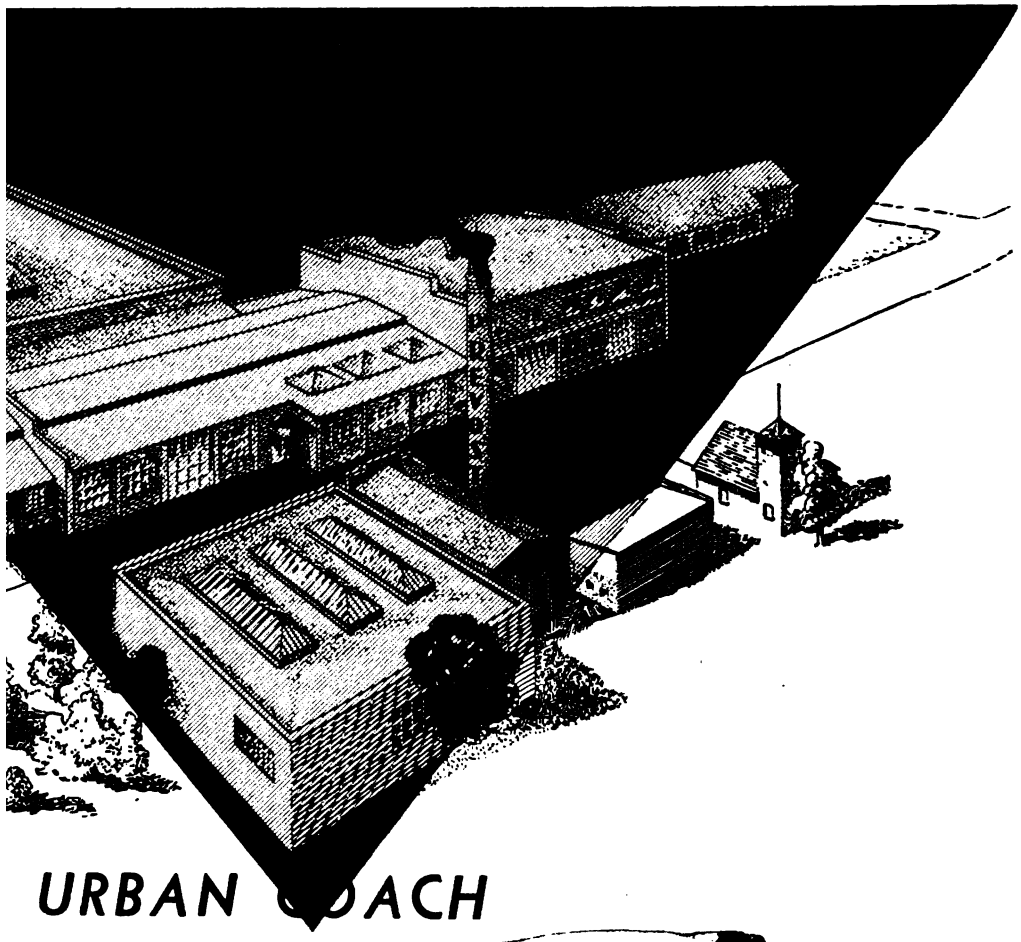
This operation takes a little over a minute to do, and will fit right into your present rail-laying program. Ask Canadian Railroad Service for more information about how you can use flame-cleaning to prevent joint bars from freezing to rail ends when you lay new rails.



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Passenger Capacity

The Prevost Urban Coach has all the comfort and convenience for passenger attraction; is ruggedly constructed and engineered to take the wear and tear of day in and day out operation.

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Wide, roomy aisles, and a 78" ceiling, give plenty of room for standing. Large windows and wide windshield give perfect vision.



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Prevost Coaches are "custom-built" for profitable bus
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Canadian made, they are practical and economical . . . save yo
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- Integral construction throughout
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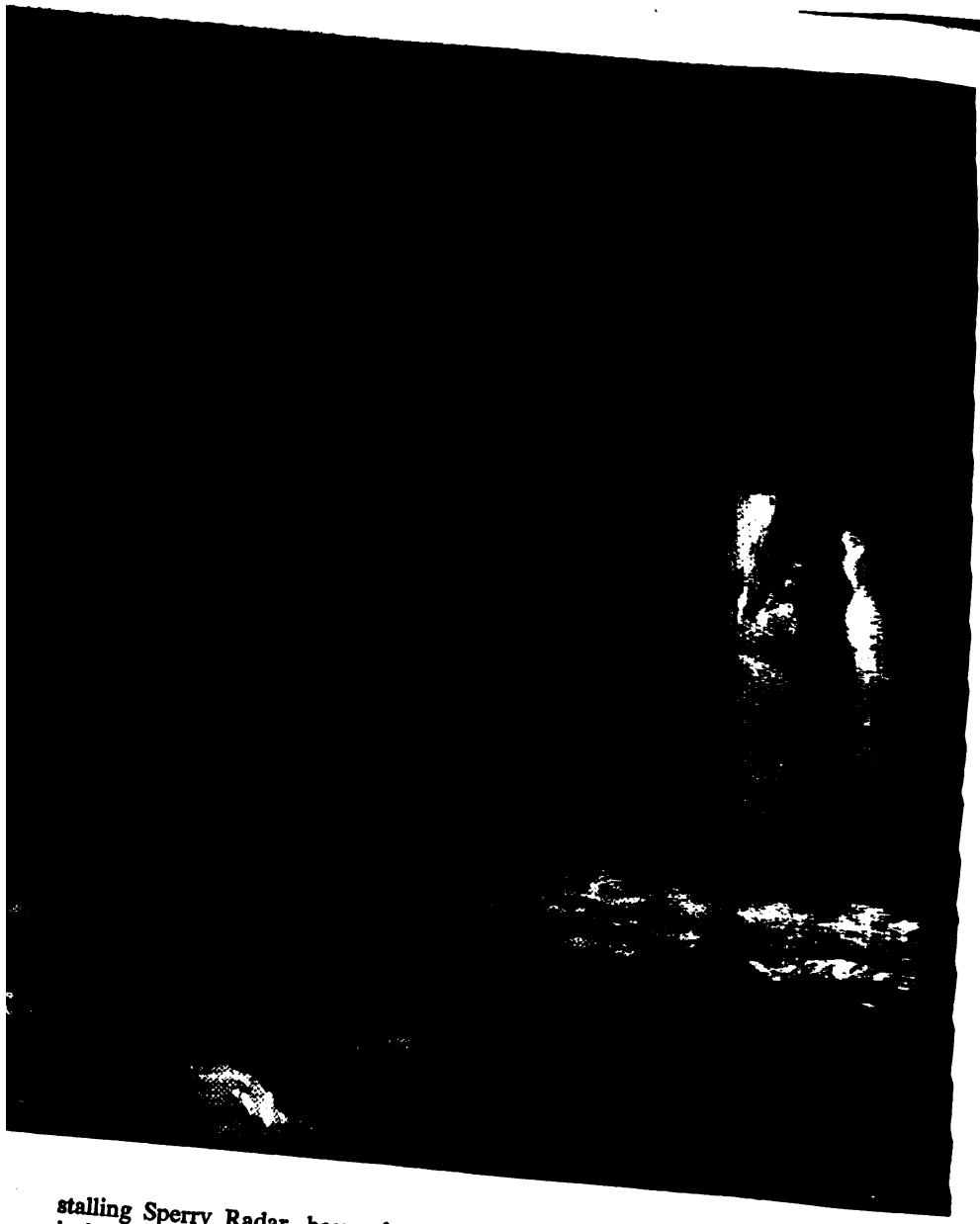
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SAINTE CLAIRE **DORCHES**



stalling Sperry Radar, heavy fog and icebergs made this route too hazardous for safe navigation.

■ "Very often on the inland route we have day and night foggy weather and run into ice 400 to 500 miles east of Belle Isle," says Captain Bjarni Jonsson. "At times you look into the radar scope and can see 20 to 30 blocks of ice east of Newfoundland, 200 to 300 miles north of Cape Race—south of Greenland, it's all ice."

■ Sperry Radar picks up large icebergs at 12 miles, and small ones at 5 to 6 miles. Low ice, about one foot high, shows clearly on the Sperry Radar scope and appears similar to a shoreline.



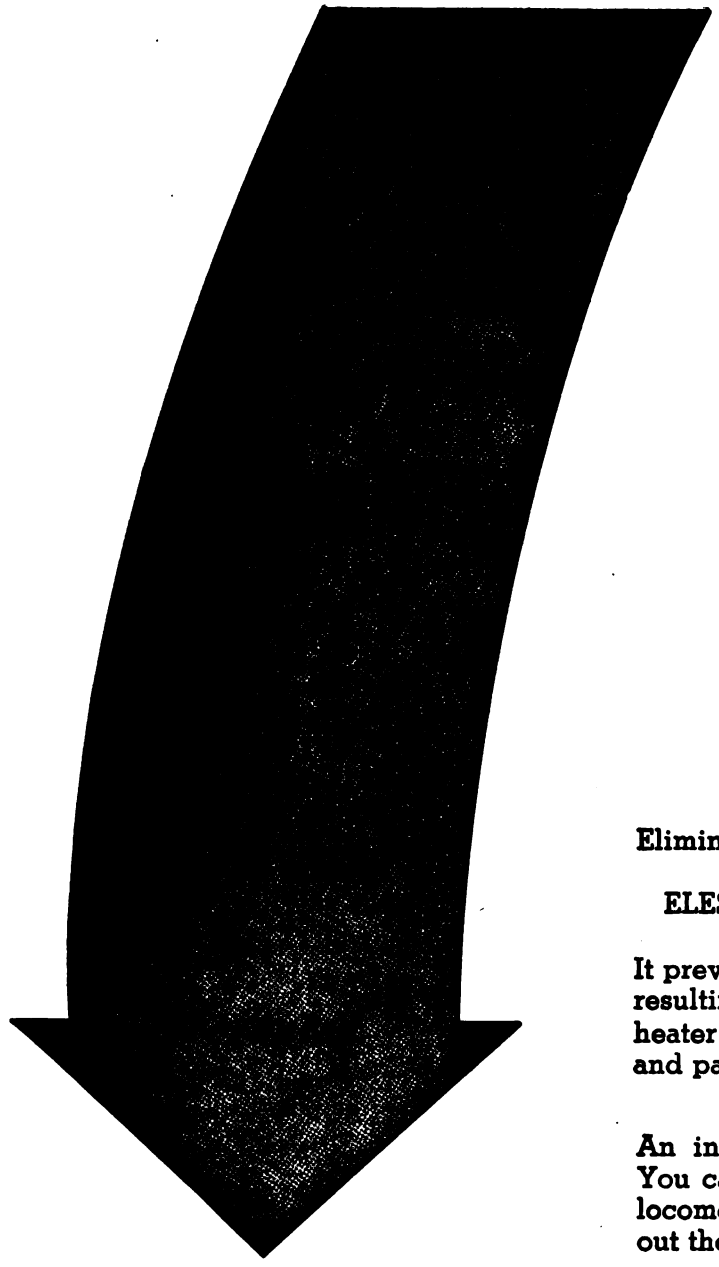
CAPTAIN BJARNI JONSSON OF THE SS TRÖLLAFOSS

■ The experience of Captain Jonsson with Sperry Radar is similar to that of all types of vessels from ocean liner to trawler. Our nearest district office will be glad to furnish you with details.

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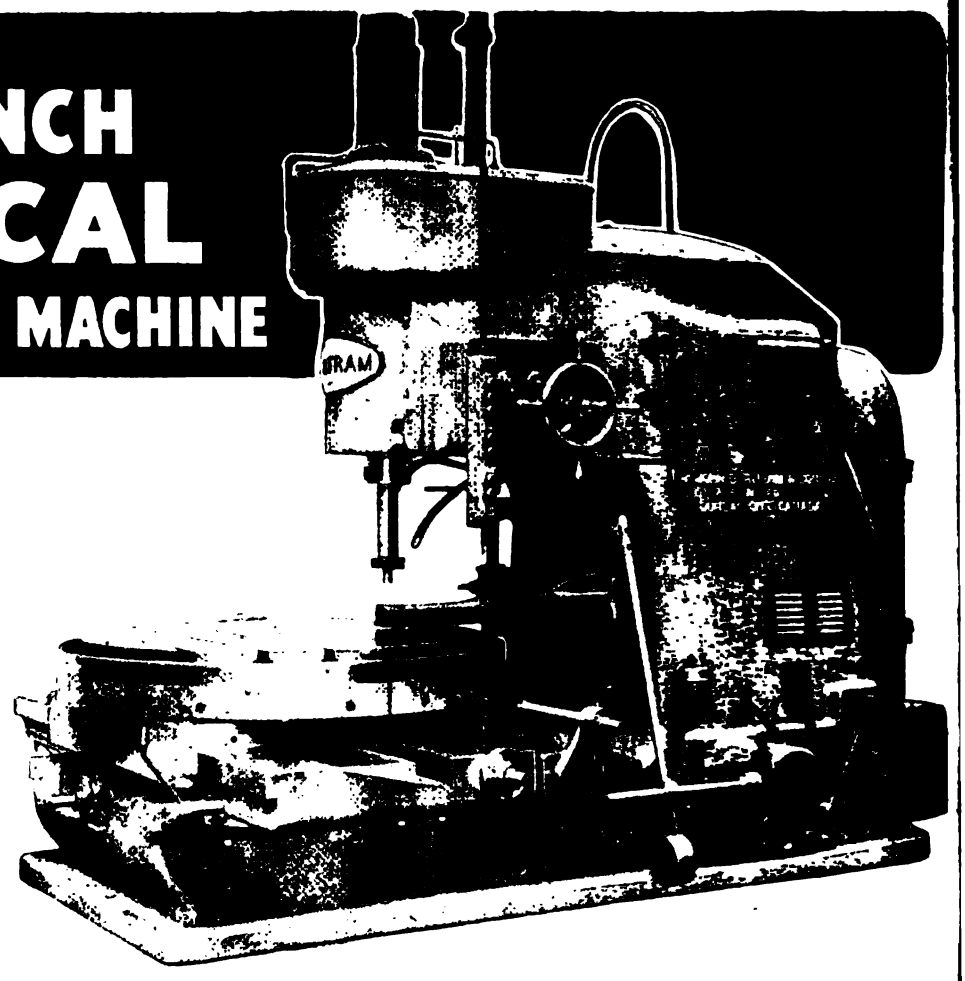
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Canadian Transportation

Controlled Recirculation Steam Ge Diesel Locomotives

(Editor's note—The following paper by J. F. Griffin, Chief Engineer, The Superheater Co., presented before the New York Railroad Club, describes the Elesco steam generator as emp'oyed on Diesel-e'ectric locomotives for the generating of steam for train heating.)

One of the most exacting jobs in railroading today is the provision of steam for heating purposes on Dieselized passenger trains.

Space and weight limitations demand a most compact steam generating unit. When once started by the crew, the steam g:nerator must be fully automatic in every respect because it is located in the Diesel locomotive away from the crew and is, therefore, unattended from one end of the run to the other.

The Elesco steam generator used on Diesel locomotives for heating purposes, here described, is manufactured by the Superheater Company, Sherbrooke, Que.

The steam generator is shipped as a complete unit with all auxiliaries attached, ready for installation.

There are five main features incorporated in the Elesco steam generator—these are: Controlled recirculation of water; Preheating feedwater to steam temperature; Deaeration of feed water; Simplicity of controls; Easy removal of steam generating elements.

Controlled recirculation of the water in the steam generator and preheating of the feedwater to steam temperature before it enters the steam generating elements practically eliminates scale formation in the elements.

Preheating of the feedwater to steam temperature and passing it through a separator deaerates the water, protecting the elements against corrosion.

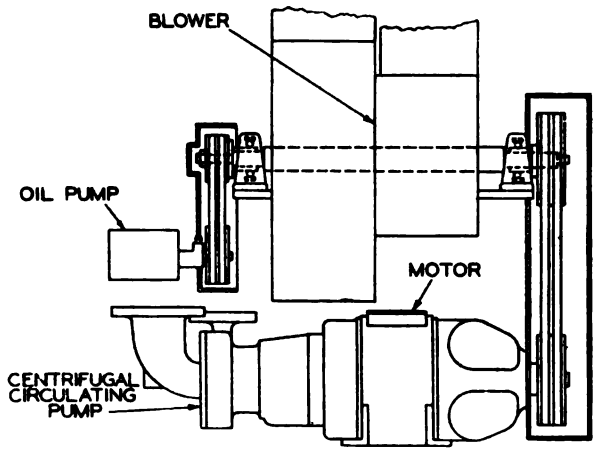


DIAGRAM OF MOTOR DRIVEN AUXILIARIES

Fig. 1

Simplicity of controls in addition to promoting reliability simplifies trouble shooting and reduces maintenance.

Provision for ready replacement of steam generating elements increases the availability of the locomotive and

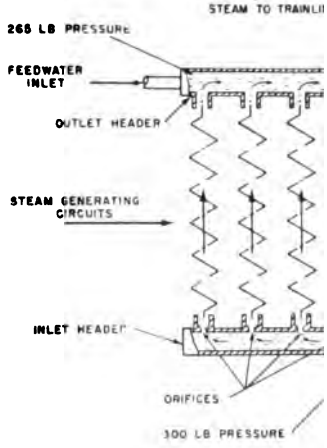


Fig. 2 — Controlled Recirculation Flow Diagram.

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the inside of the elements. From these tests it was determined that a circulation rate approximately ten times the maximum steam output to the train line provided a satisfactory margin of safety from a scale forming standpoint. A slightly higher rate is being used in the steam generators.

Fig. 2 also shows that the constant speed centrifugal pump takes water at steam temperature from the bottom of the steam separator and deaerator and discharges it into an inlet header. This header feeds a number of steam generating elements. There are eight such elements in the 3900 steam generator, seven in the 2800 and 12 in the 6000.

At the entrance of each element is a metering orifice, the pressure drop through which is considerably higher than the pressure drop through the element. This insures a proper distribution of water through all elements.

Note the difference in pressure in the inlet and outlet headers. The difference in these pressures is used to operate a differential valve. When the difference in pressure is not sufficient to insure desirable circulation, it automatically closes off the fuel supply.

This principle of forced recirculation has been used quite extensively in Europe, where there are approximately 2,000 such steam generating units in operation. It not only affords a means of preventing or keeping scale formation at a minimum, but permits the design of a compact unit where space is limited because the steam generating tubes can be arranged in any form desired and at the same time be provided with proper circulation.

The largest controlled recirculation boiler built to date is at the Somerset Station of the Moutaup Electric Company, Fall River, Massachusetts, which was installed during 1940-1942. It was designed to generate 650,000 lb. of steam per hour at 2000 psi and 690 degs. F. The size and shape of the boiler were determined by the floor space and head room available, and the decision to use controlled recirculation was made because the desired output could be obtained in a limited space.

A recirculation unit was installed for the Koppers Company in connection with the synthetic rubber industry. It generates 350,000 lb. of steam per hour at 800 psi and 750 degs. F. Two circulating pumps were provided, each with sufficient capacity to operate the unit at maximum output.

Both of these boilers were designed and built by Combustion Engineering-Superheater, Inc., which provided the background for the development of steam generators for use on Diesel locomotives.

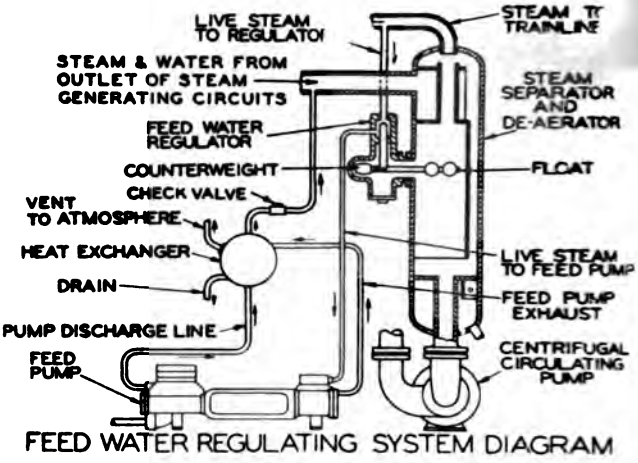
Fig. 2 shows that all the steam generating elements discharge into an outlet header, and it should be kept in mind the mixture in this header is, at maximum steam output, approximately ten times as much water by weight as steam. At 1000 lb. per hour steam output this figure becomes approximately thirty times as much water as steam.

Note from Fig. 2 that the make-up feedwater enters the system at the outlet header. While traveling to the steam separator and deaerator the feedwater is heated to steam temperature. Preheating of the make-up feed, speeds up tremendously the action of the water treatment so that scale forming properties are precipitated from the water and the rapid circulation keeps them in suspension until they can be settled out in the sludge chamber at the bottom of the steam separator and deaerator. Preheating of the make-up feedwater to steam temperature also provides a uniform temperature throughout the system, thus simplifying expansion problems.

Fig. 2 also shows how a constant filtering process is in operation all the time the steam generator is in use. A small amount of water from the circulating pump discharge enters the sludge chamber. Because of the low velocity flow through this chamber the sludge settles to the bottom and the clean water re-enters the system at the outlet header. The sludge from the sludge chamber is automatically blown to atmosphere periodically. The frequency of blow is automatically varied in response to the amount of make-up water fed to the steam generator.

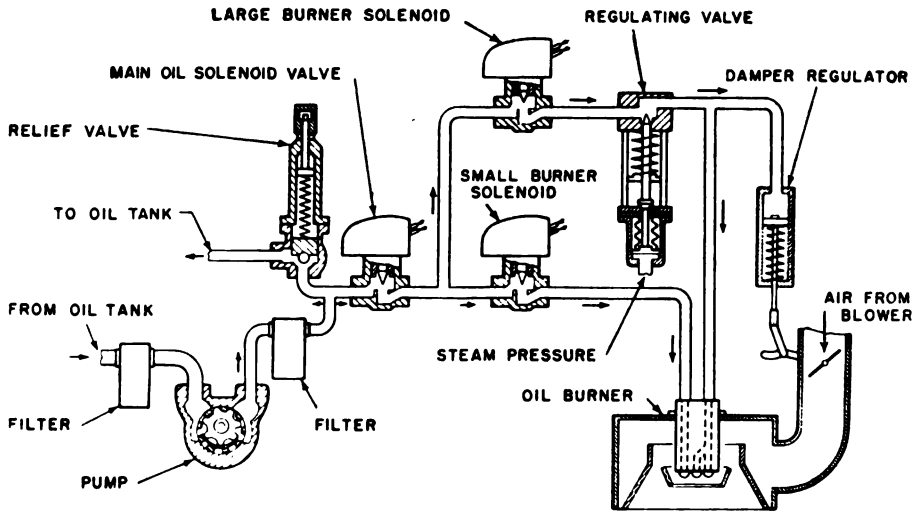
When the stop button is pressed the burners shut off but the motor and, therefore the circulating pump, continues to run until the steam pressure drops to approximately fifty pounds. This insures that the heat in the refractory brick in the bottom has been dissipated and all steam generation has ceased before recirculation is stopped. It also provides a thorough hot water wash for the elements each time the steam generator is shut down.

The control of the feed water is shown in Fig. 3. This is simply a float counterbalanced so that vibration and shock at crossovers, etc., have no effect on it. During operation the water level is maintained at the float level. As the water level drops the float moves downward and increases the amount of steam to the feed pump. This increases the amount of water fed to the steam generator. As the water level rises the reverse takes place. There is no



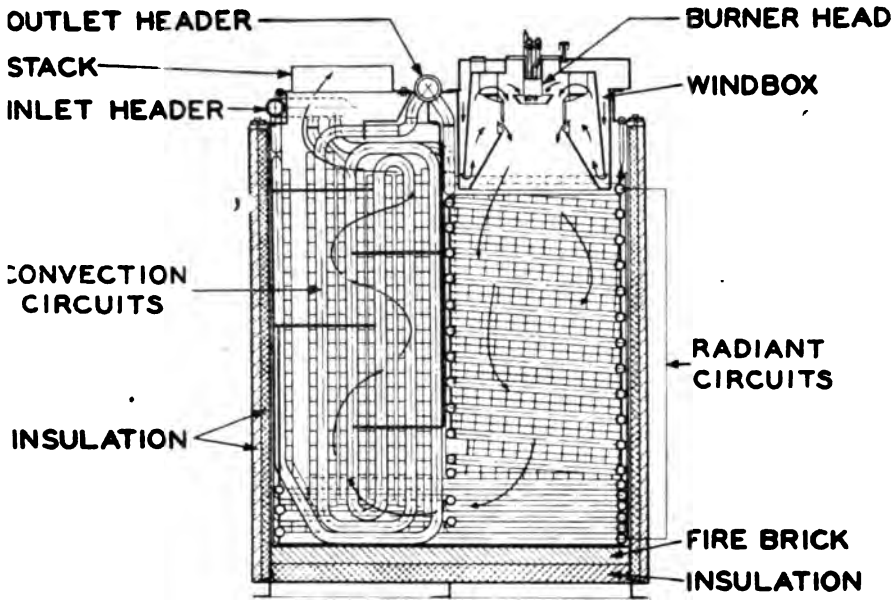
FEED WATER REGULATING SYSTEM DIAGRAM

Fig. 3



FUEL OIL AND AIR SYSTEM DIAGRAM

Fig. 4



SECTION THROUGH STEAM GENERATOR

Fig. 5

packing in the valve which regulates the steam flow to the pump, thus avoiding variations in friction and performance.

Fig. 4 shows the fuel oil and combustion air system. As previously stated, the constant speed motor operates the blower and oil pump at constant speed. The oil pump discharge line has a relief valve in it which permits the excess oil to be returned to the oil tank. This valve maintains a constant pressure in the pump discharge line; however, the oil cannot reach the burner until the solenoid valves are opened.

The first one to open when starting is the one to the small burner. This is an "all on" or "all off" burner operated by a pressure limit switch. In the 3000 lbs. per hour steam generator it is capable of generating a little under 1000 lbs. per hour. The fuel to the large burner is regulated by a valve acting in response to steam pressure on a bellows. As the steam pressure drops, the pressure of oil to the large burner is increased and as the steam pressure increases, the pressure to the large burner is decreased.

The burners are of the mechanical atomizing type, no air or steam being mixed with the fuel oil and the amount of oil burned is dependent upon the pressure at the oil tip, therefore the regulator valve determines the amount of oil burned. As steam is drawn from the steam generator it tends to lower the steam pressure. This causes the regulator valve to increase the oil pressure and therefore the amount of oil burned to maintain the steam pressure. As the oil pressure to the large burner changes it operates the damper regulator to adjust the amount of air admitted to the burner. In this manner the proper amount of air is admitted to the burner to give satisfactory combustion

When starting, the steam generator control switch is set in the **starting** position and the start button is pressed. This automatically starts the motor, which in turn operates the circulating pump, the blower and the oil pump. At this point the operator checks the water level in the glass and if more water is required to bring the water level to the top of the water glass, he opens a valve which operates the feed pump by compressed air to secure this water level.

With this accomplished he then moves the control switch down to the **running** position. Since the motor has already been running for a few minutes, the blower has already purged the steam generator of any gases that may have been present in the combustion chamber. In addition there is an automatic time delay of five seconds after the control switch is placed in running position before ignition of the fuel oil takes place, thus insuring a thorough purging of the combustion chamber of excess gases. This is for the purpose of guarding against **flare backs.**

The ignition converter starts supplying the spark required for ignition, at the same time the fuel oil solenoid valve in the small burner pipe line opens. If, after five seconds, the photo-electric cell in the electric eye has not seen a flame and taken over control to keep the fuel oil solenoid valve open, the latter will automatically close; but if the electric eye has seen the flame, it permits the fuel oil solenoid valve to remain open. The ignition converter automatically shuts down, coming into action only when firing up.

After the steam pressure has reached thirty pounds the solenoid in the line to the large burner opens and this burner is ignited from the flame of the smaller burner.

Fig. 5 shows a section through the steam generator. The burner

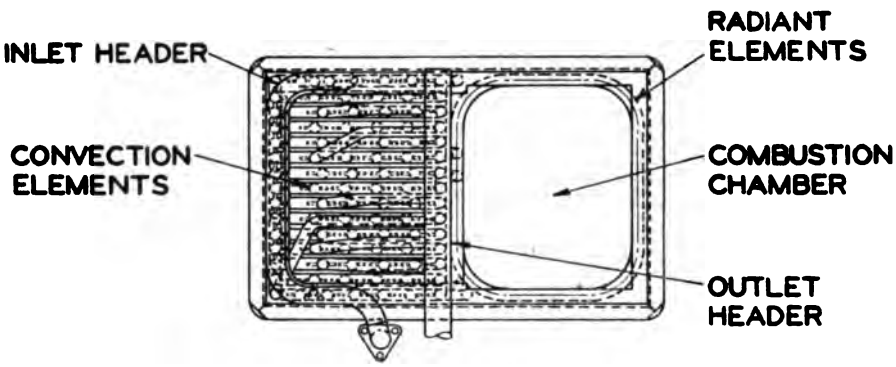


Fig. 6, Plan View of Steam Generator

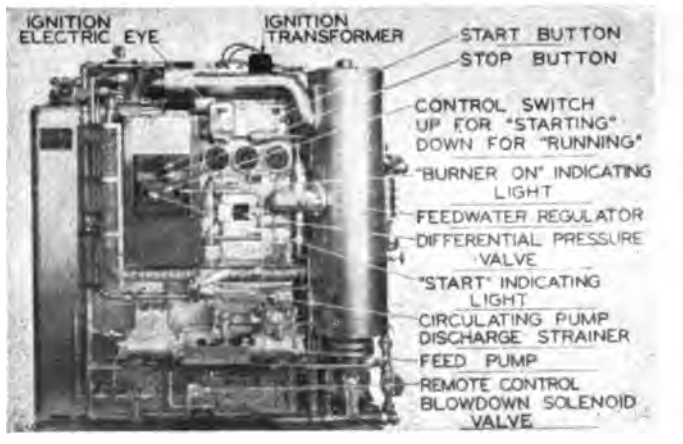
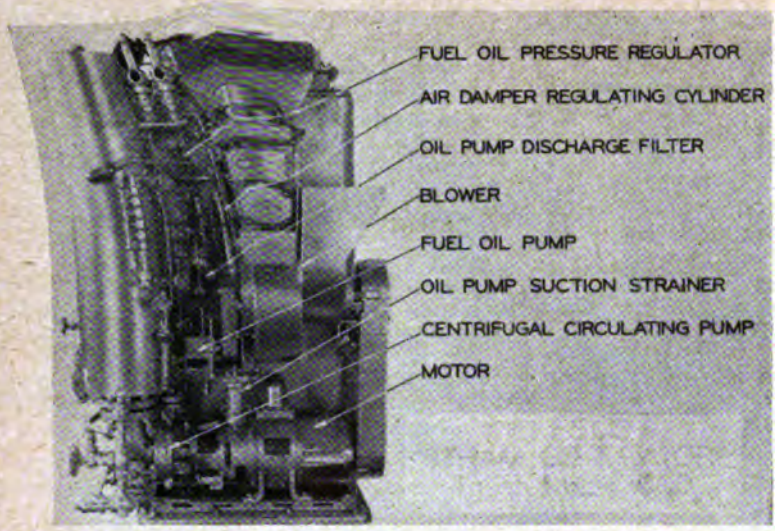
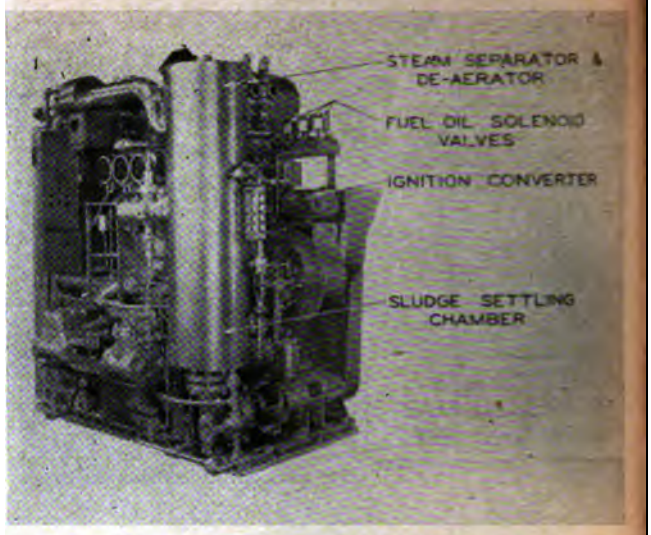


Fig. 7. Elesco Steam Generator Type M-2 3900, front view.





Left, Fig. 8, and Right, Fig. 9, Showing Views of Elesco Steam Generator Type M-2 3900 (Side View in Fig. 8 and Diagonal View in Fig. 9)

cone does not have any refractory, the alloy plates being cooled by air on its way to the burner. This figure shows the path of flow of the gases and it will be noted that the gases travel through a fairly long path with suitable baffling to provide efficient heat transfer.

Fig. 6 shows a plan view of the heating surface of the steam generator. This is sufficiently labeled to make further comments unnecessary.

The following figures of the steam generator are being shown to permit labeling the most important auxiliaries.

Fig. 7 shows a front view of the steam generator.

Fig. 8 shows a side view.

Fig. 9 shows a diagonal view.

Fig. 10 shows a rear diagonal view from which it should be noted two sides of the steam generator are free from auxiliaries, thus permitting it to be placed in a corner or against an end or side wall.

Note particularly in this figure the row of bolts along the top edge of the casing of the body of the steam generator. The removal of these bolts plus breaking of the inlet and outlet header joints, fuel oil lines, the ignition wiring and their air duct to the burner, permits lifting of the entire assembly of the burner, inlet and outlet headers and steam generating elements out through the hatch. A spare steam generating surface can be used to replace it. The steam generating elements may then be repaired in the shop where there is room to work on them at the convenience of the shop, or returned to the manufacturer for reclaiming.

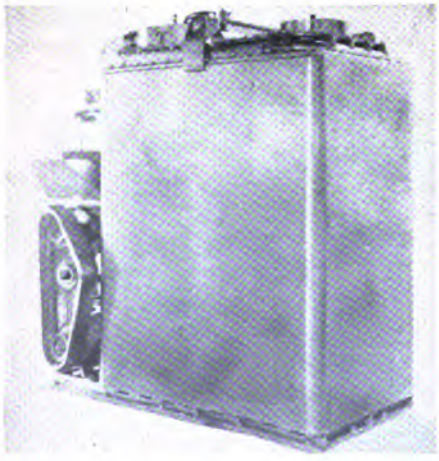


Fig. 10, Elesco Steam Generator Type M-2 3900, Rear Diagonal View.

Fig. 11 shows the steam generating surface, which is covered by a shrouding plate, partially withdrawn from the steam generator body casing.

Fig. 12 shows this assembly fully withdrawn. This is accomplished without disturbing any of the auxiliaries on the front or side of the steam generator.

Ample safety devices are provided with this equipment.

The principle of controlled recirculation used in these steam generators has been proved to be highly successful in practically eliminating scale formation in the tubes over a period of about one and a half years of railroad service on several roads, having a fairly wide range of water conditions.

Controlled Recirculation Ensures Maximum Output When Required

Controlled recirculation is the principle of the Elesco Steam Generator that insures the maximum output at any time demanded. A small efficient centrifugal type pump, direct connected to the operating motor, is used to force the water through all steam generating circuits at a predetermined velocity.

This velocity was determined after exhaustive tests were made using all types of water, to definitely establish at what flow rates scale would not deposit on the steam generating surfaces. The amount of water forced through the steam generating circuits, at a controlled velocity, is approximately ten times the maximum steam output. Therefore, the flow is actually a carrying medium for the steam bubbles. These steam bubbles are taken off in the steam separator and delivered to the outlet at a quality better than 99%.

Preheated feedwater is introduced into the outlet header leading to the steam separator, where it is further heated to steam temperatures before reaching the actual steam generating surfaces. This further eliminates the possibility of scale deposition on these surfaces. By putting all feedwater through the separator before it goes to the generator circuits all gases are taken off with the steam and eliminates possibility of oxidation of the generating tubing.

A small quantity of water from the circulating pump is continuously led into a sludge chamber. From this chamber any sediment or sludge is blown to atmosphere at intervals either manually or by remote control or both. Automatic control and safety devices of the simplest construction, consistent with proper functioning, have been provided. Each control is arranged for operation independent of the others, thus providing the utmost in safety, reliability and simplicity.

The large and small burners, consolidated into one small easily removed burner head, are of the mechanical atomizing type, utilize light grades of fuel oil. Modifications can be employed so that gas or Bunker "C" fuel oil can be burned. The burner cone and windbox are of stainless steel construction. They are air cooled, thus eliminating the necessity for the use of refractory and, therefore, avoiding expensive refractory maintenance problems.

Three Sizes—Larger Ones for Near Future

The characteristics of Elesco steam generators of three capacities are set forth in the accompanying table, and generators of greater capacities are expected to be produced in the very near future.

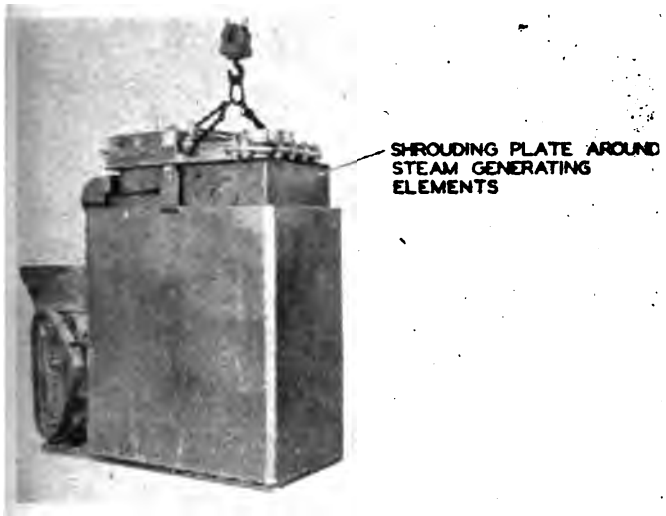


Fig. 11, Elesco Steam Generator Type M-2 3900

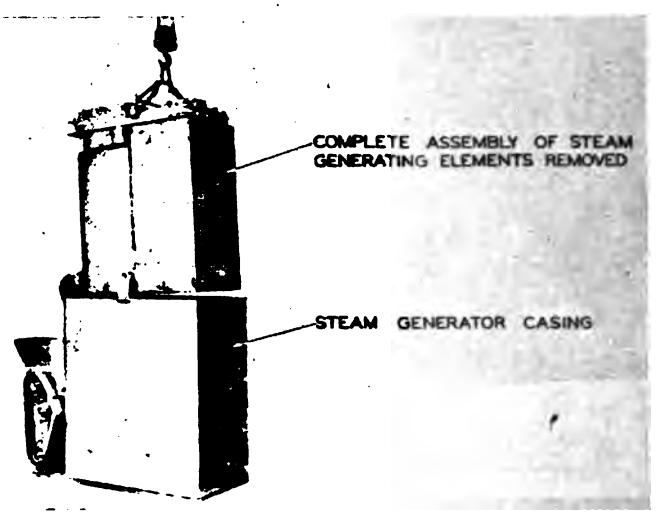


Fig. 12, Elesco Steam Generator Type M-2 3900

Advantages of the Elesco controlled recirculation steam generator are well understood, and are as follows:— Material reduction in scale formation in tubes; maintenance of maximum capacity for long periods without acid washing; long tube life; rugged auxiliaries; simple controls. The advantages outlined naturally ensure lower maintenance costs in service than for other types of steam generators.

This type of steam generator is now finding a ready market where true economies are of paramount importance, in the application to Diesel and electric locomotives for train heating purposes, as well as for industrial installations.

Fig. 11 shows the steam generating surface, which is covered by a shrouding plate, partially withdrawn from the steam generator body casing. Fig. 12 shows this assembly fully withdrawn, this being accomplished without disturbing any of the auxiliaries on the front or side of the steam generator.

Characteristics of Three Types of Generators Now in Service

	2,800 lb. per hr.	3,900 lb. per hr.	6,000 lb. per hr.
Design Pressure	375 PSI	375 PSI	375 PSI
Nominal Working Pressure	275 PSI	275 PSI	275 PSI
Steam Released per lb. of Fuel Burned	12.8 lb.	12.8 lb.	12.8 lb.
Horsepower Rating	98	136	210
Weight	5,300 lb.	6,300 lb.	8,450 lb.
Floor Space Required	3'11" x 5'11"	4'3" x 6'3"	5'1" x 6'10"
Height	6' 2"	6' 6"	7' 1"

Birthdays of Transportation Men

December 16-January 15

Many happy returns of the day to:—

H. E. ALLAN, Locomotive Foreman, Canadian Pacific Railway, Red Deer, Alta., born at Moose Jaw, Sask., December 27, 1911.

G. N. ALLEN, Division Engineer, Canadian National Railways, Ottawa, Ont., born at Moncton, N.B., Dec. 23, 1900.

H. W. ALLMAND, Division Master Mechanic, C.P.R., Smiths Falls, Ont., born at Montreal, Que., January 13, 1907.

CAPT. R. B. ANGUS, Manager, Upper Lakes and St. Lawrence Transportation Co., Ltd., Toronto, born at Kincardine, Ont., Jan. 14, 1893.

C. A. BERNER, Superintendent, C.N.R., Prince Rupert, B.C., born in Sweden, Dec. 16, 1893.

J. R. BOWLES, formerly City Freight Agent, Grand Trunk Ry., Montreal, and retired Manager, Sales, Toronto District, Southam Press, Montreal, Ltd., born at Sarnia, Ont., Jan. 13, 1873.

J. A. BRASS, General Secretary, Railway Association of Canada, and Chairman, Canadian Passenger Association, Montreal, born at Hamilton, Ont., Dec. 26, 1888.

S. B. BROWN, Manager, Transportation Department, Canadian Manufacturers' Association, Toronto, born at Ottawa, Ont., Jan. 14, 1891.

A. H. CADIEUX, O.B.E., Chief, Department of Investigation, C.P.R., Montreal, born there, Jan. 5, 1886.

W. H. CHUBB, Storekeeper, C.N.R., Ottawa, born at Whitechurch, Tavistock, Devon, England, Dec. 19, 1885.

N. F. COWIE, Division Freight Agent, C.P.R., Winnipeg, born at Aberdeen, Scotland, Jan. 7, 1908.

W. W. CREIGHTON, General Agent, Union Pacific Rd., Toronto, born at Point Edward, Ont., Jan. 1, 1893.

L. A. FONGER, Assistant Freight Traffic Manager, Western Region, C.N.R., Winnipeg, born at St. George, Ont., Dec. 23, 1892.

A. H. FOSTER, Assistant Manager of Operation, Toronto Transportation Commission, born at Guelph, Ont., Dec. 24, 1888.

ARCHIBALD FREEMAN, General Manager, Ontario Northland Transportation Commission, North Bay, Ont., born in Halton County, Ont., Dec. 18, 1885.

A. A. GARDINER, General Passenger Traffic Manager, C.N.R., Montreal, born in Somersetshire, England, Dec. 22, 1886.

J. D. GERVIS, Supervisor, Highway Operations, Canadian National Transportation, Ltd., Port Arthur, Ont., born at Parry Sound, Ont., Jan. 9, 1899.

C. C. GILLESPIE, M.B.E., Assistant Transport Economist, Department of Research and Development, C.N.R., Moncton, N.B., born at Parrsboro, N.S., Jan. 14, 1900.

P. E. GINGRAS, Passenger Traffic Commissioner, Eastern Lines, C.P.R., Montreal, born at St. Romuald, Que., Dec. 30, 1898.

DUNCAN M. GEORGE, Assistant to Vice President, C.P.R., Toronto, born at Alves, Morayshire, Scotland, January 4, 1894.

D. V. GONDER, Assistant Vice President, C.N.R., Montreal, born at Pingyao, Shansi, China, January 4, 1908.

W. G. CUNNINGHAM, Superintendent, Portage-Brandon Division, C.N.R., Winnipeg, born at Dunbeath, Dec. 28, 1887.

J. A. D'ANJOU, Superintendent of Transportation, Quebec District, C.N.R., Quebec, born at Matapedia, Que., Dec. 27, 1898.

A. A. DUNPHY, Manager, Dominion Atlantic Ry., Kentville, N.S., born at Fredericton, N.B., Jan. 4, 1890.

D. W. EMMS, Assistant Superintendent, Hornepayne Division, C.N.R., born at Edgar, Ont., Dec. 31, 1897.

E. D. GRAY-DONALD, M.Sc., Vice President and Chief Engineer, Shawinigan Water and Power Co., Montreal, born at Amov, China, Dec. 29, 1900.

R. GREGG, Travelling Fireman, C.N.R., Edmonton, born at Winnipeg, Man., December 28, 1915.

T. G. HAWKINS, Superintendent, Sleeping, Dining and Parlor Cars, C.P.R., Montreal, born there, Jan. 5, 1888.

H. E. HEAL, Passenger Representative, Pennsylvania Rd., Buffalo, born at Bowmanville, Ont., Dec. 17, 1891.

L. D. HICKEY, Superintendent, C.N.R., Calgary, Alta., born at Shoals, Ind., Jan. 8, 1887.

RT. HON. C. D. HOWE, P.C., B.Sc., M.E.I.C., Minister of Trade and Commerce, born at Waltham, Mass., Jan. 15, 1886.

C. E. HUNT, General Freight Agent, Canada Steamship Lines, Ltd., Toronto, born Dec. 30, 1897.

G. M. HUTT, Development Commissioner, C.P.R., Montreal, born at Toronto, Dec. 26, 1902.

G. ROY JONES, General Superintendent, Cartage Dept., C. P. Express Co., Toronto, born there, Dec. 19, 1891.

WM. C. McBRIEN, Chairman, Toronto Transportation Commission, born at Orangeville, Ont., Jan. 12, 1889.

H. E. MACDONALD, Supervisor, Perishable Traffic, C.N.R., Moncton, N.B., born at Shubenacadie, N.S., Jan. 14, 1897.

A. T. McKEAN, formerly General Freight Agent, C.P.R., Vancouver, now at Ocean Park, B.C., born at Saint John, N.B., Dec. 18, 1886.

E. W. MacKINNON, C.B.E., formerly Superintendent, C.N.R., Charlottetown, P.E.I., born at Hunter River, P.E.I., Dec. 21, 1883.

R. J. McMILLIN, Superintendent of Transportation, Ontario Northland Ry., North Bay, Ont., born at Thornton, Ont., Dec. 30, 1886.

J. T. MADIGAN, General Agent, C.N.R. Express Dept., Toronto, born there, Jan. 13, 1886.

M. A. METCALF, C.B.E., Vice President and Executive Assistant, C.N.R., Montreal, born at Toronto, Dec. 23, 1895.

R. H. ROBERTSON, General Superintendent, B.C. District, C.N.R., Vancouver, born at Morrisburg, Ont., Jan. 3, 1898.

F. W. ROBINSON, General Superintendent, Provincial Transport Co., born at Clarenceville, Ont., Jan. 7, 1903.

MAURICE ROCH, Travelling Passenger Agent, C.P.R., Montreal, born at Island Pond, Vt., December 25, 1910.

J.N. SICARD, Vice President and General Manager, Quebec Power Co., and Quebec Ry., Light and Power Co., born at Montreal, Jan. 6, 1892.

R. L. SIMPSON, Vice President and General Manager, Minneapolis, St. Paul and Sault Ste. Marie Railroad Co., born Dec. 26, 1892.

R. K. SMITH, K.C., LL.B., Chairman, National Harbours Board, Ottawa, born at Amherst, N.S., Dec. 28, 1887.

T. S. SULLIVAN, General Superintendent, C.N.R., Winnipeg, born at Osgoode, Iowa, Dec. 30, 1890.

D. L. TAIT, Manager, London Street Ry. Co., London, Ont., born there, Dec. 20, 1909.

ERIC F. THOMPSON, Assistant Steamship General Passenger Agent, C.P.R., Montreal, born at Toronto, December 29, 1896.

ROBERT THOMPSON, O.B.E., Dock Superintendent, C.N.R., St. Johns, Nfld., born at Wellington-on-Tyne, Northumberland, Eng., Dec. 17, 1891.

D. S. THOMSON, Vice President, Prairie Region, C.P.R., Winnipeg, born at Cornwall, Ont., Dec. 24, 1895.

E. W. TRAVIS, General Agent, Passenger Department, C.P.R., San Francisco, Calif., born at Elkhorn, Man., Dec. 23, 1893.

S. C. VAUGHAN, General Agent, Passenger Department, C.N.R., Boston, Mass., and General Passenger Agent, Central Vermont Ry., St. Albans, Vt., born at Boston, Jan. 7, 1889.

K. C. WALKER, District Freight Agent, C.P.R., Hamilton, Ont., born in East Flamboro, Ont., Jan. 14, 1904.

R. J. H. WOOD, Chief Dispatcher, C.N.R. Montreal, born at Cornwall, Ont., Jan. 11, 1895.

Railway Operating and Financial Results

July, 1950 and 1949

	All Railways		Canadian National Rys.		Canadian Pacific Ry.	
	July, 1950	July, 1949	July, 1950	July, 1949	July, 1950	July, 1949
Operating Revenues:						
Freight	$66,169,049	$52,650,715	$33,976,000	$25,933 000	$25,674 525	$21,379,720
Passenger	9,225,433	10,219,350	4,617,800	5,008,500	3,942,550	4,571,406
Mail	742,061	754,058	330,459	338,847	337,281	348,044
Express	3,155,769	3,080,954	†2,278 555	†2,230 956	731,671	718,992
Other passenger train	1,101,739	1,164,983	496,060	516,240	584,184	622,497
Water line	494,568	525.280			218,638	274,280
All other	4 227.130	3,826,399	2,231.626	2.196 357	1,687.676	1,343.222
Total railway operating revenues	85,115,749	72,221,742	†43,930,500	†36,223,900	33,176,525	29,251.121
Operating Expenses:—						
Maintenance of way and structures	17,706 445	15,943,652	9,535 138	8 269.290	6.689,364	6.266.178
Maintenance of equipment	13,786,678	13,671,157	7,857,027	7,571,505	4,802,146	5,000,135
Traffic	1,614 034	1,623,200	713,948	732,110	786 850	785.878
Transportation	33 627,695	32,454,890	18,667,854	17,765,107	12,318 633	12,281,090
Miscellaneous operations	1,433,462	1,487,532	594,985	520,693	759,418	817.708
General	3,553,191	3,475,165	1,797,670	1,745 229	1,482.099	1,461,864
Total railway operating expenses	71,727,505	68,655,596	39,106.622	36,604,934	26,838,510	26,612.793
Operating Income:—						
Net operating revenue	13,388,244	3.566,146	4,823,878	Dr. 381,034	6,338.015	2,638.328
Railway tax accruals	3 677.412	1.545,318	670,838	610 664	2,506.238	682.690
Hire of equipment	Dr. 974 550	Dr.1,270,434	Dr. 365,027	Dr. 555,853	Cr. 136.836	Dr. 151.772
Joint facilities rents	Dr. 185,178	Dr. 167.638	Cr. 16,993	Dr. 376	Dr. 126 506	Dr. 102.974
Operating income	8,551,104	582,756	3,804,976	Dr.1,557,927	3,842,107	1,701.293
Operating Statistics:—						
Average miles of road operated	43 323.29	43,227.67*	22,519.49	22,410.27*	17,019.3	17,032.3
§No. of tons carried (Rev. Fr.)	13,507 059	11,941,019*	5,828 253	5,161,265*	4.491.392	4,031,145
No. of tons carried one mile (Rev. Fr.) Thous.	4.640.206	3.919.027*	2,383.503	1,942.829*	1,889,361	1,636,744
No. of tons carried one mile (All Fr.) Thous.	5.110 888	4,371.062*	2,639 722	2,155,701*	2,074 489	1,866,918
Gross ton miles, excl. of locomotive & tender Thous.	11,488.271	9,806.433	5,896,154	4,819 503	4,594,476	4,098,466
No. of revenue passengers carried	2,904 392	3,168,712*	1,633 057	1,702,895*	1,004 295	1,183,969
No. of revenue passengers carried one mile Thous.	342 768	391.040*	174,697	198,297*	141.792	167.404
Freight train miles	6.889.430	6.070.593	3 544,534	2,932,405	2.763.135	2,619.073
Passenger train miles	4,127.540	4.116,783	2,000,085	1 980 062	1,866,650	1,887,297
Total train miles (rev. and non rev.)	11 309,218	10 477,706	5,727,554	5,094,791	4,709.412	4 593,287
Freight car miles—loaded	176.416.245	158,064.073	89 010,453	78,875.393	71,266,045	65,245 910
Freight car miles—empty	83,653,726	67,888,787	41.072 387	32 546.599	31 521.067	28.073.601
Passenger train car miles	39,241.505	39 681,190	19,317,202	19.250 062	17,312,570	17,884,320
Total amount of payroll	$43,574 902	$42.777,726*	$24,573,432	$23,534,184*	$16,298,039	$16.653,889
Number of employees	184,500	185,771*	105,204	104 010*	68.672	72.158
Payroll chargeable to ry. operating expenses	$40,983,263	$40,276,760*	$22,754,403	$21,786,008*	$15,659,128	$16.012,683
Daily Averages per Mile of Road Operated:—						
Operating revenue	$63.38	‡$53.89	$62.93	‡$52.14	$62.88	$53.40
Operating expenses	$53.41	$51 23	$58.02	$52.69	$50.87	$50.49
No. of tons moved one mile (Rev. Fr.)	3.455	2 925	3 386	2.797	3,581	3,109
No. of tons moved one mile (All Fr.)	3,806	3,262	3,781	3,103	3,932	3,536
No. of revenue passengers carried one mile	255	292	250	285	269	317
Averages per Freight Train Mile:—						
Freight revenue	$3 61	$3.67	$9.59	$3 84	$9.29	$3.16
No. of tons of freight (Rev. Fr.)	674	646	697	663	684	625
No. of tons of freight (All Fr.)	743	720	745	735	751	713
Gross ton miles	1.669	1,615	1,663	1 644	1.659	1,565
Loaded freight cars	25.6	26.0	25.1	26.9	25 8	24.9
Empty freight cars	12.2	11.2	11.6	11.1	12.5	10.7
Averages per Passenger Train Mile:—						
Passenger train revenues	$3.45	$3.70	†$3.86	†$4.09	$3.00	$3.31
Passengers carried	83	95	87	100	76	89
Passenger cars	9.5	9.6	9.7	9.7	9.3	9.5
General Statistics:—						
Average operating expenses per train mile	$6.34	$6 55	$6.82	$7.18	$5.70	$5.79
Average length of haul (Rev. Fr.) Miles	344	328	406	376	421	406
Average passenger journey Miles	118	123	107	116	141	141
Average tons per loaded freight car mile	29 0	27.7	29.7	27 3	29.1	28.6
Average freight receipt per revenue ton mile	1.426c	1 343c	1.438c	1.325c	1.359c	1.306c
Average passenger receipt per passenger per mile	2.695c	2 613c	2.643c	2 527c	2.781c	2.731c
Ratio of operating payroll to operating revenues	48.2%	55.8%	51.8%	60.1%	47.2%	54.7%
Ratio of operating expenses to revenues	84.27%	95.06%	89.02%	101.05%	80.96%	90.98%

*Includes statistics for Newfoundland District.
§Includes duplications.
‡Revised to include Newfoundland.
†Includes gross express revenue.
The above figures relate to those railways with annual operating revenues of $500,000 or over.
C.N.R. figures include only C.N.R. lines in Canada and do not include Hudson Bay Ry.
C.P.R. lines include all subsidiary lines in Canada.

Passenger and freight train miles contain a proportion of mixed train miles, divided on the basis of freight and passenger car miles in mixed train service. Total train miles include freight and passenger with their proportion of mixed train miles, special train and non-revenue train miles. The average freight revenue per freight train mile includes only rail line revenue. Average train revenue per passenger train mile includes revenue from passengers, mail, express, baggage, parlor cars, etc.

Fine Improvement in July

With operating revenues in July this year increased by $12,894,007, or 17.9%, over those of July in 1949, and with the increase in operating expenses restricted to $3,071,909, or 4.5%, the Canadian railways had a much more satisfactory month in July this year than in that month in 1949. The operating revenues of July this year, $85,115,749, constituted a new record for the month, and the operating expenses for the month were exceeded only by those of the month in 1948, which included more than $10 million

All Railways

	Seven Months Ended July 31, 1950	1949	1948	1947
Operating Revenues	$526,120,257	$495,491,654	$472,830,183	$440,033,476
Operating Expenses	479,076,800	478,158,473	452,305,796	393,101,894
Net Operating Revenue	47,043,457	17,333,181	20,524,387	46,931,582
Operating Income	27,067,031	818,771*	5,359	23,001,959

*Deficit.

The above figures apply to all Canadian railways with annual operating revenue of $500,000 or over; those of the C.N.R. United States lines are not included.

Canadian Pacific Railway

(Including Canadian Subsidiaries)

	Gross Earnings 1950	1949	Working Expenses 1950	1949	‡Net Earnings 1950	1949	Increase
January	$24,544,458	$27,767,495	$26,488,163	$28,068,619	*$1,943,705	*$301,124	†$1,642,581
February	26,403,293	26,899,834	26,360,682	27,093,984	42,611	* 194,150	236,761
March	32,229,816	30,890,969	28,965,680	30,077,045	3,264,136	813,924	2,450,212
April	29,782,941	30,136,788	27,843,187	28,832,033	1,939,754	1,304,755	643,999
May	32,022,334	30,471,803	29,616,305	29,617,698	2,406,029	854,105	1,551,924
June	32,322,644	29,068,906	28,883,220	28,557,873	3,439,424	511,033	2,928,391
July	33,176,525	29,251,121	29,334,418	27,549,828	3,842,107	1,701,293	2,140,814
August	25,719,567	30,875,730	23,025,167	29,277,957	2,694,400	1,597,773	1,096,627
September	36,711,912	32,353,708	31,785,644	30,138,072	4,926,268	2,215,636	2,710,632
Totals	$272,913,490	$267,716,354	$252,302,466	$259 213,109	$20,611,024	$8,503,245	$12,107,779

*Deficit. †Decrease. ‡After hire of equipment, joint facility rents and taxes.

C.P.R. U.S. Subsidiaries

	Minneapolis, St. Paul and Sault Ste. Marie Rd. 1950	1949	Wisconsin Central Ry. 1950	1949
September:—				
Railway operating revenues	$3,811,671	$4,187,728	$2,862,896	$2,269,440
Railway operating expenses	2,620,324	2,672,060	1,966,658	1,737,717
Net revenue from railway operations	1,191,347	1,515,668	896,238	531,723
Railway operating income	774,990	977,945	391,688	394 562
Net railway operating income	715,725	815,835	196,356	262,898
Nine Months to September 30:—				
Railway operating revenues	$26,287,123	$26,890,589	$21,683 452	$20.215.474
Railway operating expenses	23,061,219	22 309,690	15,806,148	15,997,047
Net revenue from railway operations	3,225,904	4,580 899	5,877.304	4,218,427
Railway operating income	1,109,112	2,213,919	3,795.036	2,923.991
Net railway operating income	856 520	1,689,103	2,425,807	1,802,478

Canadian National Railways

	Operating Revenues 1950	1949	Operating Expenses 1950	1949	Net Revenue 1950	1949	Increase
January	$35,041,000	$37,309,000	$37,635,000	$38,797,000	*$2,564,000	*$1,488,000	†$1,076,000
February	36,765 000	36,901,000	38,122 000	38,398,000	*1,357 000	*1,497 000	140,000
March	44,865,000	41,436,000	41.796,000	40,591,000	3,069,000	845.000	2,224,000
April	43,978 000	40,355,000	39,522 000	38.748,000	4 456,000	1,607,000	2,849,000
May	47,534,000	40.184,000	41,197,000	39,587,000	6.337 000	597.000	5 740,000
June	47,770 000	40,589,000	41,217.000	39,703,000	6.553 000	886,000	5 667,000
July	50,358,000	41,405,000	44.057,000	41,009,000	6.301,000	396,000	5,905,000
August	38,151.000	42,623,000	34,871 000	41.574,000	3.280.000	1,049.000	2,231.000
September	52,099.000	44.742,000	43,357,000	40,749,000	8,742,000	3,993,000	4,749,000
Totals	$396,561 000	$365,544,000	$361,744,000	$359,156,000	$34,817,000	$6,388,000	$28,429,000

*Deficit. †Decrease.

Central Vermont Railway (C.N.R. Subsidiary)

	September, 1950	1949	Nine Months to Sept. 30, 1950	1949
Railway operating revenues	$876,000 00	$774,000.00	$7,718,000.00	$7,146 000.00
Railway operating expenses	737.990.88	744,489.70	6,371.353 99	6.216 349 28
Net revenue from railway operations	138,009.12	29.510.30	1,346,646.01	929.650 72
Net railway operating income	14 176.47	*59,844.43	400 921 63	120 736.20
Net income available for interest	*3,371.91	*84,332.27	266,089.87	*96,399.61

*Deficit.

Combined Figures of C.N.R. Canadian and U.S.A. Lines

	July, 1950	July, 1949
Operating Revenues:		
Canadian Lines	$43,930,500	$36,223 900
United States Lines	6.427,500	5 181,100
Total	50,358,000	41,405,000
Operating Expenses:		
Canadian Lines	39,106.622	36,604,934
United States Lines	4,950,378	4.404,066
Total	44,057,000	41,009,000
Net Operating Revenue:		
Canadian Lines	4,823,878	*381,034
United States Lines	1,477,122	777,034
Total	6,301,000	396,000
Operating Income:		
Canadian Lines	3,804,976	*1,557,927
United States Lines	756,657	178,857
Total	4,561,633	*1,379,070

	Seven Months Ended July 31, 1950	1949
Operating Revenues:		
Canadian Lines	$265,106 000	$242 084,200
United States Lines	41,205,000	36,094,800
Total	306,311,000	278,179,000
Operating Expenses:		
Canadian Lines	250,709,275	245.357,017
United States Lines	32,806,725	31,475,983
Total	283,516,000	276,833,000
Net Operating Revenue:		
Canadian Lines	14.396 725	*3 272,817
United States Lines	8,398,275	4,618,817
Total	22,795,000	1,346,000
Operating Income:		
Canadian Lines	8,431,195	*9,206,717
United States Lines	3,711,041	813,532
Total	12,142,236	*8,393,185

*Deficit.

in back pay to employees. The net operating revenue for the railways collectively increased from $3,566,146 in July last year to $13,388,244 in the month this year. Naturally, with better profits, tax accruals increased, having been up from $1,545,318 in the 1949 month to $3,677,412. On the other hand, the hire of equipment debit was down from $1,270,434 in July, 1949, to $974,550 in the month this year. There was a moderate increase in the joint facilities rents debit, viz., from $167,638 in the 1949 month to $185,178. The operating income was up in gratifying measure, having increased from $582,756 in July, 1949, to $8,551,104 in the month this year.

The freight traffic revenue for the railways collectively was up from $52,650,715 in July last year to $66,169,049 in the month this year, an increase of 25.7%. The number of tons of revenue freight carried increased from 11,941,019 in the 1949 month to 13,507,059, or by 13.1%, and, with the average length of revenue freight haul up from 328 miles in the 1949 month to 344 miles, the revenue freight ton mileage was up in the ratio 3,919:4,640, or by 18.4%. Coupled with this large increase in revenue freight ton mileage was a betterment of from 1.343c in the 1949 month to 1.426c in the average receipt per revenue ton mile.

The passenger traffic revenue of the railways collectively decreased from $10,219,350 in July, 1949, to $9,225,433 in the month this year, or by nearly 10%. The number of revenue passengers carried decreased from 3,168,712 in the 1949 month to 2,904,392 in the month this year, or by 8.3%, and with the average passenger journey reduced from 123 miles in the month last year to 118 miles, revenue passenger mileage was decreased in the ratio 3,910:3,424, or by 12.5%. The average receipt per revenue passenger mile was up moderately, viz., from 2.613c to 2.695c, but this did not go far in wiping out the effect of the reduction in the revenue passenger mileage, with the decrease in passenger traffic revenue resulting. Mail revenue decreased from $754,058 in the 1949 month to $742,061, or by 1.6%, but express revenue was up from $3,080,954 to $3,155,769, or by 2.4%. The changes were not great in the "other passenger train" and water line revenue, while "all other" revenue was up from $3,826,399 in the month last year to $4,227,130, or by 10.5%.

The operating expenses of the railways collectively were $71,727,505 in July this year, compared with $68,655,596 in the month last year, the increase, as noted, having been one of 4.5%. The outlay for maintenance of way and structures increased from $15,943,652 in the 1949 month to $17,706,445, or by 11.5%. The expenditure for maintenance of equipment increased very moderately, and traffic expenses in the month this year were a little below those of the 1949 month. Transportation expenses were up from $32,454,890 in the 1949 month to $33,627,695, or by 3.6%. Expenses of miscellaneous operations decreased slightly, but general expenses were up from $3,475,165 in July last year to $3,559,191 in the month this year, or by 2.4%.

In the handling of the largely increased tonnage of revenue freight made available to the railways in July of this year, there were 6,882,430 freight train miles operated, compared

with 6,070,528 in July, 1949, the increase in freight train mileage having been one of 13.4%. The average number of tons of revenue freight per freight train increased from 646 in July last year to 674 in the month this year, and this, together with the moderate increase in the average freight rate, produced earnings of $9.61 per freight train mile in July this year, compared with $8.67 in the 1949 month. Total freight tonnage per train, counting in o.c.s. freight as well as revenue, was up from 720 in the 1949 month to 743. Gross ton miles per freight train mile increased from 1,615 to 1,669. The average number of loads per train came down from 26 in July last year to 25.6 in the month this year, but this was more than compensated for by a betterment in car loading, average freight tonnage per car having been up from 27.7 in the 1949 month to 29. On the average, there were 12.2 empties per train in July this year, compared with 11.2 in the month last year. The empty freight car miles increased by wide margin, viz., from 67,888,787 in July, 1949, to 83,653,726, this having been an increase of 23.2%.

In the passenger end of the business, wherein it was seen that there were decreases in the month this year in number of revenue passengers carried, in average journey, in revenue passenger mileage and in passenger traffic revenue, passenger train miles operated increased very slightly over those in the 1949 month, viz., from 4,116,789 to 4,127,540. Passengers per train on the average came down from 95 to 83, while revenue per passenger train mile was off from $3.70 to $3.45.

The increase in freight traffic, the decrease in passenger traffic and the greater increase in revenues than in expenses are reflected in the figures recording the daily averages per mile of road operated for the railways collectively. Operating revenue per mile of road per day increased from $53.89 in July last year to $63.38 in the month this year, while operating expenses on the same basis were up from $51.23 to $53.41. The revenue freight ton mileage per mile of road per day was up from 2,925 in the month last year to 3,455, the increase as concerns the ton mileage of all freight having been from 3,262 to 3,806. Revenue passenger mileage per mile of road per day came down from 292 in the month last year to 255.

The total payroll of the railways collectively increased from $42,777,726 in July, 1949, to $43,574,902 in the month this year, this having been an increase of 1.9%, which was effected despite the fact that the number of employees of the roads collectively came down from 186,771 in the month last year to 184,500, a decrease of 1.2%. The payroll chargeable to railway operating expenses in July this year, $40,983,263, took 48.2% of gross earnings. The July, 1949, operating payroll, $40,276,760, represented 55.8% of gross earnings.

The betterment effected by the railways as between July last year and the month this year is well shown by the decrease in the operating ratio, which came down from 95.06% in the 1949 month to 84.27%. Also, with increased freight traffic and more train miles over which to distribute the total operating expenses, the average operating expenses per train mile decreased from $6.55 in July, 1949, to $6.34 in the month this year.

The figures for July last year and this, in the large table preceding this review, were furnished by the Public Finance and Transportation Division of the Dominion Bureau of Statistics. The figures for July this year include the statistics of the Temiscouata Ry. from January 1, as incorporated with Canadian National Rys. data, the Temiscouata having been taken over by the C.N.R. Previously, monthly operating statistics had not been reported for the Temiscouata. The Canadian National figures in the large table at the beginning of this review are for the Canadian lines only, and do not cover the operations of the Duluth, Winnipeg and Pacific, the Grand Trunk Western Rd., C.N.R. lines in New England, and the Central Vermont Ry.; neither do they relate to the Hudson Bay Ry., owned by the Dominion Government and operated for it by the C.N.R. Also, the figures in an accompanying table for the first seven months of this year and the three immediately preceding years, for all railways, include only C.N.R. Canadian lines. C.N.R. figures in the other tables, furnished by the management, are for the whole system. In the first seven months of this year, the railways collectively earned net operating revenue of $47,043,457, compared with $17,333,181 in the first seven months of 1949, and derived operating income of $27,067,031, compared with an operating income deficit of $818,771 in the first seven months of 1949.

Transcontinental Railways' August Results

The gross earnings, operating expenses and net earnings of the two transcontinental railways, as recorded by their managements, were presented in our November issue, pg. 593. On both railways, although the operating revenues for August this year were considerably below those of August in 1949, because of the strike of non-operating employees in the month this year, the decreases in operating expenses which were effected were considerably greater than the revenue losses suffered, with the result that increases in net earnings were recorded. On the Canadian Pacific, the net was up from $1,597,773 in August, 1949, to $2,694,400 in August this year, a betterment of $1,096,627, and on the Canadian National (whole system) net was up from $1,049,000 in August last year to $3,280,000, a betterment of $2,231,000. To the end of August, C.P.R. net was $9,397,147 ahead of that for the first eight months of 1949, while on the Canadian National the betterment in net in the eight-month period this year was $23,680,000.

Transcontinental Railways in September

The gross earnings, operating expenses and net earnings of the two transcontinental railways in September, as recorded by the managements, are published in tables accompanying this review, along with corresponding figures for preceding months and figures recording the totals for the first nine months of this year and last. On the Canadian National (whole system) gross earnings were largely increased over those of September, 1949, and the increase in gross was considerably greater than that experienced in operating expenses, with the result that C.N.R. net earnings for September this year, $8,742,000, exceeded those for September last year by $4,749,000. C.N.R. net for the first nine months of this year, $34,817,000, represented a betterment of $28,429,000 over the net earned in the first nine months of 1949.

Canadian Pacific gross in September exceeded that earned in September last year by $4,358,204, and this increase in gross was accompanied by one of $1,647,572 in operating expenses. The result was that the net earned in September this year, $4,926,268, exceeded that earned in the 1949 month by $2,710,632. C.P.R. net earnings in the first nine months of this year, $20,611,024, were $12,107,779 greater than those of the same part of 1949.

C.N.R. Canadian and U.S. Lines

In July, when C.N.R. whole system net earnings were $6,301,000, the Canadian lines earned net of $4,823,878, while the net earned by U.S. lines was $1,477,122. In July last year, system net earnings were only $396,000, the Canadian lines having experienced an operating deficit of $381,034, while the U.S. lines had net earnings of $777,034. The system operating income in July was $4,561,633, to which the Canadian lines contributed $3,804,976, and the U.S. lines, $756,657. In July last year there was an operating income deficit of $1,379,070 for the system; while the U.S. lines had operating income of $178,857, the Canadian lines had an operating income deficit of $1,557,927.

In the seven months ended July 31 this year, C.N.R. system net was $22,795,000, derived $14,396,725 from Canadian lines and $8,398,275 from U.S. lines. In the first seven months of 1949, system net earnings were only $1,346,000, the Canadian lines having suffered an operating deficit of $3,272,817, while the U.S. lines had net earnings of $4,618,817.

System operating income in the first seven months of this year was $12,142,236, to which the Canadian lines contributed $8,431,195, and the

U.S. lines, $3,711,041. In the first seven months of 1949 there was an operating income deficit of $8,393,185; while the U.S. lines had operating income of $813,532, the Canadian lines had an operating income deficit of $9,206,717.

Rolling Stock Orders and Deliveries

It was mentioned in our November issue, pg. 604, that the C.N.R. had ordered 5,000 steel box cars at cost of approximately $33 million, with the order divided among Canadian Car and Foundry Co., Ltd., National Steel Car Corp., Ltd., and The Eastern Car Co., Ltd. Recent official advice is that 2,000 of these cars are to be built by Canadian Car and Foundry Co., Ltd., and 1,500 each by National Steel Car Corp., Ltd., and The Eastern Car Co., Ltd.



The Two-unit, 4,000 h.p. Diesel-electric Locomotive of Alco Make, which Was in Demonstration Service on the C.N.R., February-May, and which Was Acquired by the M.K.T. on Return to the United States.

The largest order ever placed by the C.N.R. for Diesel-electric motive power was announced at Montreal headquarters early in November by E. A. Bromley, Vice President, Purchases and Stores. It covers 40 road freight locomotives for delivery early in 1951, 28 of which are to be supplied by General Motors Diesel, Ltd., London, Ont., and 12 by Montreal Locomotive Works, Ltd. These new locomotives will be operated in both long and short haul services between Halifax and Winnipeg. The 28 units ordered from General Motors Diesel, Ltd., will each be of 1,500 h.p., and almost identical with those original Diesel-electric locomotives for road service on the C.N.R. which were built by GMC Electro-Motive Division and placed in the Montreal-Toronto freight service two years ago. However, they will be equipped with automatic gear shift, to replace the manual control, and changes in the electrical system will give them greater hauling capacity. Fourteen "A" units and the same number of "B" units will be supplied.

The 12 units to be supplied by Montreal Locomotive Works, Ltd., will consist of six "A" units and the same number of "B" units, with each of 1,600 h.p. These locomotives will be similar to those acquired from Montreal Locomotive Works, Ltd., recently, and now in operation on C.N.R. lines between Montreal and Jonquiere, Que.

This order for Diesel-electric motive power brings the total cost of new equipment ordered by the C.N.R. in 1950 to approximately $57.500,000. With this order for 40 units, the C.N.R. had 88 Diesel-electric locomotives scheduled for delivery late in 1950 and in 1951. Upon receipt of all of these units, the C.N.R. will have a total of 265 Diesel-electric locomotives in operation, viz., 143 switchers, 84 road freight locomotives and 38 road switchers, the latter being suitable for either switching or road service.

These orders for 28 locomotives from General Motors Diesel, Ltd., and 12 from Montreal Locomotive Works, Ltd., follow an order placed with Canadian Locomotive Co., Ltd., Kingston, Ont., for 18 Diesel-electric locomotives, noted in our November issue, pg. 604.

Two-Unit, 4.000 H.P. Diesel.— Mention was made in our issue of March last. pg. 135, of the experimental operation on the C.N.R. of a two-unit, 4,000 h.p. Diesel-electric locomotive built by American Locomotive Co. and loaned to the C.N.R. by Montreal Locomotive Works. Ltd. It was noted that each unit of this locomotive is powered by an Alco V type, 16-cylinder, turbo-supercharged engine, and is 65 ft. 8 in. long, weighs 303,-000 lb., carries 1 577 Imperial gal. of water and 1.414 gall. of oil, and develops 2.000 h.p. Both units loaned to the C.N.R. were "A" units, with cab and complete controls. The locomotive was turned over to the C.N.R. early in February, and following a short period in freight service between Montreal and Brockville, was assigned to hauling the Continental Limited passenger train between Montreal and Winnipeg.

Recent official advice is that this demonstration locomotive remained in C.N.R. service during February, March and April, and up until about the middle of May, when it was returned to American Locomotive Co. Officials of the Missouri-Kansas-Texas Lines became interested in the Canadian performance of the locomotive, came to Montreal to witness its demonstration, and promptly purchased it upon its return to the United States. This two-unit locomotive, while in Canada, was known as "Big Bertha" to the train crews. Beginning work on February 10, it operated for two days in freight service between Montreal and Brockville and was then transferred to passenger service until February 25. It went back to freight service for three days. and then from February 28 until May 15 was in continuous passenger service, h uling the Continental Limited between Montreal and Winnipeg. In 13 weeks on this run, it made 59,774 trouble-free, on-schedule miles, and completed 22 round trips, hauling between 13 and 18 passenger cars on each trip. On three occasions it also picked up train No. 4 at Winnipeg and hauled both trains to Capreol, easily maintaining schedule. On another occasion, to test reserve power, it operated on one unit for 700 miles. On no occasion was the train late for a cause ascribable to the locomotive, even in blizzards and in the lowest temperatures in years, and during the big storm of March 2 - 4, when trains throughout North America fell behind schedules by hours, it actually made a net gain of two hours and 52 minutes on a run of 1,358 miles, in temperatures ranging down to 50° below zero.

On the 700-mile run during which only one unit was in operation, on the grade at North Bay, Ont., the single unit hauled the idle 167-ton unit and 14 passenger cars, and at Stevens, Ont., it hauled the long train over the summit without difficulty. James Waldron, Chief of the Montreal Locomotive Works, Ltd., test crew on the locomotive, stated that this locomotive could be run clear through from Montreal to Vancouver, turned around, and brought back to Montreal without a single layover. Service engineers of Montreal Locomotive Works, Ltd., and Canadian General Electric Co., Ltd., assisted C.N.R. crew members and recorded technical operating data on each trip the locomotive made. After arriving in Montreal from Schenectady, where it was built. the locomotive was placed in the Montreal Locomotive Works, Ltd., new Diesel shop for extensive modifications, particularly winterizing preparations to enable it to operate without difficulty in some of the lowest temperatures experienced in Canada. In co-operation with the

C.N.R., a plan was developed to offset the low temperatures by insulating fuel and water tanks, and then piping steam from the heating system through the tanks.

Announcement from Montreal, October 31, was that the C.N.R. had placed an order for five combination mail and baggage cars with National Steel Car Corp., Ltd. These cars will differ from cars now in service in that they will be lined with steel instead of wood. The mail section will be 30 ft. 6 in. long, and the baggage section 42 ft. long. In the mail section, the heating will be thermostatically controlled, and two overhead fans will be installed for use in warm weather. In the baggage section, heating will be by a special stove. There will be a sliding door at each side of the mail compartment, 2 ft. 10 in. wide, and the baggage section also will have a sliding door at each side, 6 ft. wide. The car bodies will be mounted on six-wheel trucks.

The C.N.R. has ordered three mail cars for the narrow gauge lines in Newfoundland, from Canadian Car and Foundry Co., Ltd. These cars will be of all-steel construction, with the bodies mounted on four-wheel trucks. The car interiors will be arranged with the work section at the center, with partitions, bulkheads and a sorting table.

Official advice of November 21 was that Canadian Car and Foundry Co., Ltd., had completed delivery to the C.N.R. of an order for 25 first class cars, and had delivered one 135-ton depressed center flat car on an order for three. Also, The Eastern Car Co., Ltd., had completed delivery on an order for 25 30-ton automobile cars for service on the narrow gauge lines in Newfoundland.

The C.N.R. has ordered 20 air dump cars of 16 cu. yd. capacity, for the Newfoundland District narrow gauge lines, from The Eastern Car Co., Ltd.

Canadian Pacific Ry.

The ordering of box cars in large numbers by the C.P.R. was referred to in the October issue, pg. 546. Orders placed in September for box cars covered a total of 2,000 50-ton, all-steel units, 1,000 having been ordered from Canadian Car and Foundry Co., Ltd., and 500 each from National Steel Car Corp., Ltd., and The Eastern Car Co., Ltd. Orders which have since been placed cover a total of 2,575 freight cars, making a total of 4,575 freight cars of various type to be delivered in 1951. These 4,575 cars follow 1,500 box cars which were ordered for 1950 delivery and which, at time of writing, are expected to be in operation before the end of the year. The 2,575 cars recently ordered are as follows:—900 50-ton box cars from Canadian Car and Foundry Co., Ltd., and 300 from National Steel Car Corp., Ltd.; 300 drop-end gondola cars from The Eastern Car Co., Ltd.; 225 longitudinal hopper cars from The Eastern Car Co., Ltd., 350 automobile cars and 100 flat cars from Canadian Car and Foundry Co., Ltd.; 350 refrigerator cars and 50 covered hopper cars from National Steel Car Corp., Ltd.

In the period October 18—November 21, the C.P.R. received four 1,500 h.p. freight and passenger Diesel-electric locomotives from General Motors Diesel, Ltd., completing order for 10. Also received during the period were 141 50-ton box cars from The Eastern Car Co., Ltd., completing order for 200, and two 800 h.p. Diesel-electric yard switchers from General Motors Diesel, Ltd., first received on an order for four.

Minneapolis, St. Paul and Sault Ste. Marie Rd.

On November 1, G. A. MacNamara, President, M. St. P. and S.S.M. Rd., announced the placing of orders for 15 Diesel-electric locomotives, involving expenditure of $2,815,000. The equipment ordered consists of two 3,000 h.p. passenger locomotives, three 3,000 h.p. freight locomotives, five 1,600 h.p. switchers and five 1,000 h.p. switchers. This purchase is another in the continuing programme on the Soo line to equip the road with latest type motive power.

In addition to this purchase, the Soo Line has recently purchased 70 covered hoppers and is engaged in a big freight car construction programme at its North Fond du Lac, Wis., shops, of 200 all-steel gondolas; 400, 40 ft. 6 in., 100 000 lb. capacity nailable steel floor, and 250, 40 ft., 80,000 lb. capacity perforated steel floor box cars, and 100 twin hopper cars.

In the past two years, company forces have built 500, 40 ft. and 50, 50 ft. all steel box cars; 200 all steel general service gondolas, and 200, 70 ton ore cars.

Subsequent official advice is that the orders for these locomotives were divided among General Motors Electro-Motive Division, Baldwin Locomotive Works and American Locomotive Co. The two 3,000 h.p. passenger locomotives (each consisting of an "A" unit and a "B" unit), the three 3,000 h.p. freight locomotives (each consisting of two "A" units) and two of the 1,600 h.p. road switchers were ordered from General Motors Electro-Motive Division; two of the 1,600 h.p. road switchers from Baldwin Locomotive Works, and one 1,600 h.p. road switcher and the five 1,000 h.p. switchers from American Locomotive Co. All of these units are scheduled for delivery in March and April, 1951.

Freight Car Condition

Advice from the Car Service Division of the Association of American Railroads is that on October 1 there were 1,718,952 railway-owned freight cars on United States Class 1 railway lines, of which 102,097, or 5.9% of total, were awaiting or undergoing repairs, and that on Canadian railway lines there were 170,241 railway-owned freight cars, of which 9,037, or 5.3% of total, were awaiting or undergoing repairs.

In the following are specified the numbers of the various classes of railway-owned freight cars on U.S. Class 1 lines on October 1, the numbers of the various classes awaiting or undergoing repairs, and the percentages of such cars on lines.

Class of Cars	Total Cars on Lines	Cars for Repairs	% of Total
Box, plain and ventilated	651,050	29,945	4.6
Automobile	54,965	2,749	5.0
Gondola	285,848	16,415	5.7
Hopper, open top	560,426	44,241	7.9
Hopper, covered	22,240	252	1.1
Stock	46,406	3,705	8.0
Flat	45,522	1,984	4.4
Refrigerator	18,607	1,181	6.3
Tank	7,751	315	4.1
All Freight Cars	1,718,952	102,097	5.9

Privately-owned Cars on U.S. Lines.—On October 1 there were 217,778 privately-owned freight cars on U.S. Class 1 lines, of which 1,027, or 0.5% of total, were awaiting or undergoing repairs. Included were 101,652 privately-owned refrigerator cars, of which 560 or 0.6%, were awaiting or undergoing repairs, and 108,210 tank cars, of which 452, or 0.4%, were awaiting or undergoing repairs.

Canadian Lines.—Following are particulars of railway-owned freight cars, numbers in bad order and percentages of totals, on individual Canadian lines, on October 1:—Algoma Central and Hudson Bay, 1,498 cars on lines, 76 in bad order, 5.1% of total: Canadian National, 91,040, 5,310, 5.8%; Canadian Pacific, 75,224, 3,577, 4.8%; Ontario Northland 1,438, 42, 2.9%; Toronto, Hamilton and Buffalo, 1,041, 32, 3.1%.

Railway Accidents

In September, according to the Operating Department of the Board of Transport Commissioners for Canada, there were 222 accidents on Canadian railways, 15 persons having been killed and 243 injured, and 39 level crossing accidents, 13 persons having been killed and 54 injured, a total of 261 accidents, with 28 persons killed and 297 injured.

Of those killed one was a passenger, four employees and 23 others, and of those injured 39 were passengers, 190 employees and 68 others.

The level crossing accidents by provinces were:—

Prince Edward Island	1
Nova Scotia	1
New Brunswick	1
Quebec	8
Ontario	14
Manitoba	3
Saskatchewan	5
Alberta	5
British Columbia	1
	39

Automobiles were involved in 21 crossing accidents, motor trucks in 13, pedestrians in three, a highway grader in one, and a tractor and trailer in one. Chief causes were driving on crossings in front of approaching trains and driving into side of trains. Thirty-four of the crossing accidents occurred at unprotected crossings and five at protected crossings, and 24 of the accidents occurred after sunrise and 15 after sunset.

Transportation Appointments

The information under this head, which is gathered almost entirely from official sources, is compiled with the greatest care, so as to ensure accuracy. Anyone who may notice any error in the announcements will confer a favor by advising the Editor.

Canadian National Railways

I. BELANGER, previously Travelling Car Service Agent, Quebec District, has been appointed Acting Freight Agent, Quebec (Parent Square).

D. W. BLAIR, previously Division Engineer, Laurentian Division, has been appointed Division Engineer, Montreal Terminals and St. Jerome divisions, Montreal, succeeding M. J. A. A. des Trois Maisons, resigned.

F. W. CAMPBELL, previously Division Engineer, Belleville Division, has been appointed District Engineer, Montreal District, succeeding H. K. Morrison, retired after many years of faithful service. Headquarters, Montreal.

F. A. GAFFNEY, previously Transport Economist, Montreal, has been appointed Chief of Transport Research, with headquarters there.

J. C. GARDINER, previously Assistant Transport Economist, Winnipeg, has been appointed Assistant Transport Economist, Montreal, succeeding R. A. Rollo.

P. M. HENDERSON has been appointed Relieving Roadmaster, with headquarters at Brandon, Man., and with jurisdiction over Wawanesa, Hartney No. 1, Wakopa and Carman No. 2 subdivisions, relieving A. J. Cullen, off duty because of illness.

G. W. HOSSACK has been appointed Supervising Chemist. Headquarters, Montreal.

E. T. HURLEY has been appointed Assistant Controller of Tests and Materials. Headquarters, Montreal.

HOWARD HUTTON, previously Solicitor at Winnipeg, has been appointed Solicitor, British Columbia District, Vancouver, succeeding W. W. Boyd, deceased.

G. R. JOHNSTON, previously Assistant Transport Economist, Toronto, has been appointed Transport Economist, Montreal, succeeding F. A. Gaffney.



Norman Woolley,
General Air Brake Inspector, C.P.R., Winnipeg. (Biography, pg. 663).

J. L. LAPERRIERE, previously Freight Agent, Quebec, has been appointed Acting Trainmaster, Laurentian Division, with headquarters at Quebec.

C. A. MANN, previously Office and Reservations Manager, Chateau Laurier, Ottawa, has been appointed Manager, Prince Arthur Hotel, Port Arthur, Ont., succeeding J. R. Beven.

S. H. MAY, previously General Auditor, has been appointed Assistant Comptroller. Headquarters, Montreal.

R. H. MENARY, previously Assistant Division Engineer, Belleville, Ont., has been appointed Division Engineer, Hornepayne Division, Hornepayne, Ont., succeeding R. A. Shier, transferred.

D. F. MILLS, previously Junior Assistant Economist, Montreal, has been appointed Research Assistant there, succeeding J. D. Reynett.

L. E. OSTRANDER, previously Assistant Industrial Commissioner, Western Region, has been appointed Industrial Commissioner, Western Region, succeeding Fred V. Seibert. Headquarters, Winnipeg.

L. M. POITEVIN, previously Assistant Engineer, Quebec District, has been appointed Division Engineer, Laurentian Division, Quebec, succeeding D. W. Blair, transferred.

R. P. RENNIE has been appointed Chief Chemist. Headquarters, Montreal.

J. D. REYNETT, previously Research Assistant, Montreal, has been appointed Assistant Transport Economist, Winnipeg, succeeding J. C. Gardiner.

G. H. ROBINSON, previously General Yardmaster, London, Ont., has been appointed General Yardmaster, Hamilton, Ont., succeeding D. E. Morrison, transferred.

R. A. ROLLO, previously Assistant Transport Economist, Montreal, has been appointed Assistant Transport Economist, Toronto, succeeding G. R. Johnston.

C. E. SANSCHAGRIN, previously Assistant Superintendent, Laurentian Division, has been appointed Acting Superintendent, Cochrane Division, Cochrane, Ont., replacing L. N. Gagnon, on leave of absence because of illness.

R. A. SHIER, previously Division Engineer, Hornepayne, Ont., has been appointed Division Engineer, Belleville Division, Belleville, Ont., succeeding F. W. Campbell, promoted.

H. TOMKINS, previously Chief Clerk, Industrial Department, Western Region, has been appointed Assistant Industrial Commissioner, Western Region, succeeding L. E. Ostrander, promoted.

A. T. G. WESTBROOK has been appointed Chief Metallurgist. Headquarters, Montreal.

M. D. WHITAKER, previously Assistant General Auditor, has been appointed Auditor of General Accounts. Headquarters, Montreal.

D. J. ZAVITZ, previously leading hand carman, Calgary, has been appointed Car Foreman, Hanna, Alta., succeeding T. H. Mays, transferred.

Canadian National Rys.—Grand Trunk Western Rd.

J. M. FRANK, previously General Agent, Philadelphia, Pa., has been appointed Assistant to Freight Traffic Manager, succeeding L. B. Freeman. Headquarters, Chicago.

L. B. FREEMAN, previously Assistant to Freight Traffic Manager, has been appointed Assistant General Freight Agent, Chicago, succeeding Otto B. Durand, retired on pension after 44 years of faithful service.

G. M. NEWBY, previously General Agent, Kansas City, Mo., has been appointed General Agent, Philadelphia, succeeding J. M. Frank, promoted.

A. M. SHARPE, previously General Agent, St. Paul, Minn., has been appointed General Agent, Kansas City, Mo., succeeding G. M. Newby, promoted.

A. T. STRAPP has been appointed Dairy Agent, St. Paul, Minn., succeeding A. J. Burns, retired after many years of faithful service.

Canadian Pacific Railway

F. CALDWELL, previously Electrical and Stationary Engineer, Schreiber, has been appointed Assistant District Diesel Inspector there, a new position.

A. CHARBONNEAU, previously Electrician, Glen Yard, Montreal, has been appointed Diesel Electrical Maintainer, St. Luc, succeeding M. L. Foley, transferred.

J. W. CHRISTIE, previously Electrician, St. Luc, has been appointed Assistant District Diesel Inspector, White River, Ont., a new position.

M. L. FOLEY, previously Diesel Electrical Maintainer, St. Luc, has been appointed Assistant District Diesel Inspector, Chapleau, Ont., a new position.

B. C. GARDNER, President of Bank of Montreal, has been appointed a director of the company, succeeding H. P. Robinson, deceased.

H. R. IMPEY, heretofore in the Fuel Department, has been appointed General Fuel Agent, Prairie and Pacific regions, succeeding H. H. Enman, retired on pension after more than 46 years of service with the company.

A. W. KELLY, previously District Freight Agent, Minneapolis, Minn., has been appointed District Freight Agent, St. Louis, Mo., succeeding P. D. Salmon, deceased.

A. W. LOURIE, formerly Electrical Maintainer, St. Luc, has been appointed Assistant District Diesel Inspector, Chapleau, Ont., a new position.

S. F. MALIN, previously Statistician in the office of the Vice President and General Manager, Eastern region, has been appointed Superintendent, Great Lakes Steamships, succeeding Capt. J. Bishop, retired on pension.

S. H. MURPHY, previously Assistant Superintendent of Colonization, Toronto, has been appointed District Superintendent of Colonization, St. Paul, Minn., succeeding R. C. Bosworth, retired.

P. D. PEDERSON, previously Travelling Freight Agent, New Orleans, has been appointed District Freight Agent, Minneapolis, Minn., succeeding A. W. Kelly, transferred.



W. G. Davis,
Division Freight Agent, C.N.R., Ottawa, Ont. (Biography, pg. 661).

J. R. ROSS, heretofore Steamship General Agent, Toronto, has been appointed Cruise Director in connection with the seven West Indies cruises to be made by the ss. Empress of Scotland this winter.

H. TRAWICK has been appointed Assistant Signal Supervisor, with headquarters at Moose Jaw.

H. S. WALKER, formerly Assistant Manager of a number of C.P.R. hotels, has been appointed Manager, Emerald Lake Chalet, Field, B.C., succeeding Miss Mary Martin.

N. L. WISEMAN, heretofore Travelling Passenger Agent, Steamship Passenger Department, has been appointed Permanent Assistant Cruise Director.

Department of Transport

GUY A. LINDSAY has been appointed Director of the new Special Projects Branch.

W. I. MACKENZIE has been appointed Assistant Director of the new Special Projects Branch.

(See article in November issue, pg. 605).



Oliver Cochran,
Division Master Mechanic, C.P.R., Saskatoon. (Biography, pg. 660).

C.N.R. Wins Trophy For Annual Report

In the Financial World survey of annual report, Canadian National Rys. was judged as having for last year the best annual report in the railway classification, and the bronze "Oscar of Industry" trophy was received on behalf of the company by M. A. Metcalf, Vice President and Executive Assistant, at the Annual Awards Banquet in New York on October 30. More than 5,000 annual reports were submitted this year in the international competition, the tenth in the series of surveys.



Awards to Two Canadian Companies for the Excellence of Their Annual Reports
At the left, M. A. Metcalf, Vice President and Executive Assistant, Canadian National Rys., receives the award given the C.N.R. for its 1949 annual report, judged best in the railway classification. In the center, James A. Fuller, Executive Vice President, Shawinigan Water and Power Co., Ltd., receives the award for his company's report. At right, Weston Smith, Vice President, Financial World, and originator of the annual report contests, makes the presentations.

U.S. Railways' Financial Results

In June, according to information from the Association of American Railroads, the Class I railways in the United States earned total operating revenue of $779,182,389, compared with $735,451,268 in June, 1949, and operating expenses were $588,763,307, compared with $588,186,157 in the 1949 month. The net railway operating income (the amount left to the railways after the payment of operating expenses and taxes, but before the payment of interest and other fixed charges) was $90,046,721, compared with $61,133,357 in June, 1949, and the net income, after charges, in June this year, was an estimated $72,000,000, compared with approximately $42,000,000 in June, 1949.

In the first six months of this year, total operating revenues were $4,223,707,275, compared with $4,369,375,737 in the first half of 1949, while total operating expenses were $3,354,141,920, compared with $3,555,343,952. The net railway operating income increased from $315,275,427 in the first half of 1949 to $347,810,612 in the first half of this year, while the net income after charges in the first half of this year was an estimated $210,000,000, compared with approximately $174,000,000 in the first half of 1949.

In the 12 months to June 30 this year, the U.S. Class I railways earned a return of 3% on property investment, compared with one of 3.84% in the 12 months ended June 30, 1949. By "property investment" is meant the value of road and equipment as shown by the railway books, including materials, supplies and cash, less accrued depreciation.

In the first six months of this year, 21 Class I roads failed to earn interest and rentals, 11 of these being in the Eastern District, one in the Southern and nine in the Western.

Results in July

July was a much better month for the U.S. Class I roads than was the same month last year, the net railway operating income having increased from $50,508,420 in the 1949 month to $84,059,798, and the net income after charges from approximately $26 million to an estimated $59 million. The operating ratio was reduced from 81.3% in July last year to 74.98% in the month this year.

In the seven months to July 31 this year, the net railway operating income of the U.S. Class I roads was $432,687,410, compared with $366,392,857 in the same part of 1949, while the net income after charges increased from approximately $201 million in the 1949 period to an estimated $269 million. Figures for July and the first seven months of this year and last appear in the accompanying table, and the A.A.R. advises that the figures are based on reports from all Class I roads (excluding Canadian Pacific lines in Maine and Vermont for the month of July), representing a total of 226,521 miles.

The return earned by the Class I roads on property investment in the 12 months ended July 31 this year averaged 3.14%, compared with one of 3.61% in the 12 months ended July 31, 1949. Total operating revenue in the first seven months of this year was 1.5% below that earned in the same part of 1949, while operating expenses were decreased by 4.7%.

Twenty-three of the Class I roads failed to earn interest and rentals in the first seven months of this year, 11 of these being in the Eastern District, three in the Southern and nine in the Western.

U.S. Class I Railways' Results

	Month of July, 1950	Month of July, 1949	Seven Months to July 31, 1950	Seven Months to July 31, 1949
Total operating revenues	$771,660,954	$700,907,526	$4,995,269,229	$5,069,583,262
Total operating expenses	578,610,150	569,270,199	3,932,752,070	4,124,614,150
Operating ratio—per cent.	74.98	81.30	78.73	81.36
Taxes	94,034,726	66,260,085	526,602,700	484,266,390
Net railway operating income (Earnings before charges)	84,059,798	50,508,420	432,687,410	366,392,857
Net income, after charges	*59,000,000	†26,000,000	*269,000,000	†201,000,000

*Estimated. †Approximate.

August and September

Preliminary figures for the U.S. Class I railways for August indicate that in that month they earned net income, after charges, estimated at $96 million, a large improvement over the $39 million, approximately, earned in August, 1949. The September net income after charges was approximately $99 million, compared with $38,700,000 in September, 1949. We hope to present more complete figures for August and September in the next issue.

Revenues Lag Behind Costs

It is not only the two transcontinental railways which have been suffering financially from the disparity in the increases in unit costs and unit revenues; the smaller properties are the victims of the economic maladjustment also. This is well shown by figures in the 48th annual report of the Ontario Government property, the Ontario Northland Transportation Commission, which operates the Ontario Northland Ry. In 1940, with gross revenues of less than $6 million, this road had net operating revenue of over $1,700,000, with a ratio of net to gross of 29.5%. In 1948, with gross

earnings increased to over $10,600,000, the net revenue had decreased to less than $1,500,000, and the ratio of net to gross was only 13.9%. The complete figures of O.N.R. gross earnings, operating expenses, net operating revenue, and ratio of net to gross, as they appear in the report, are given herewith.

	Gross Receipts	Operating Expenses	Net Operating Revenue	Ratio
1940	$5,802,284	$4,087,154	$1,715,130	29.5
1941	5,703,052	4,081,000	1,622,052	28.4
1942	6,322,295	4,633,747	1,688,548	26.7
1943	6,350,816	4,843,530	1,507,286	23.7
1944	6,516,533	5,393,803	1,122,730	17.2
1945	7,350,341	5,646,485	1,703,856	23 2
1946	8,920,173	6,696,681	2 223,492	24.9
1947	9,448,226	7,672,646	1,775 580	18.8
1948	10,650,385	9,163,412	1,486,973	13.6

The Car Loading Record

Cars loaded with revenue freight on Canadian railways, in the four weeks ended November 11, exceeded by 19,065 the number loaded in the corresponding four weeks in 1949. There was an increase in the loadings in each of the four weeks this year.

The numbers of cars loaded with revenue freight on Canadian railways, in the weeks ended October 21 and 28 and November 4 and 11 this year, are recorded in the accompanying table, the figures having been supplied by the Public Finance and Transportation Division of the Dominion Bureau of Statistics, with the division between Eastern Canada and Western Canada at Fort William, Ont. Total loadings in the four-week period this year were 358,990 cars, compared with 339,924 in the corresponding four weeks in 1949, the increase thus having been 19,066 cars. Grain loadings were about on a par with those in the 1949 weeks.

Week Ended October 21

Total loadings in the week ended October 21 this year were 92,733 cars, compared with 86,769 cars in the corresponding 1949 week. Grain loadings were up from 10,207 cars in the week last year to 10,906, but live stock loadings decreased from 3,123 cars to 2,568. Coal loadings decreased slightly, viz., from 7,847 cars to 7,711. Pulpwood loadings were up from 2,374 cars in the week last year to 3,080, and loadings of lumber, lath and shingles from 4,138 cars to 5,651. Loadings of miscellaneous freight increased from 5,691 cars in the 1949 week to 6,294, but those of merchandise, l.c.l., decreased from 18,729 to 18,072.

Week Ended October 28

Total loadings in the week ended October 28 this year were 92,555 cars, compared with 87,944 in the corresponding week in 1949. Grain loadings increased from 10,269 cars in the week last year to 10,514, but there was a decrease of from 3,663 cars to 3,057 in the live stock loadings. Coal loadings were down from 8,178 cars to 7,557. Pulpwood loadings increased from 2,133 cars to 2,909, and loadings of lumber, etc., were up from 4,144 cars to 5,602. Loadings of miscellaneous freight increased from 5,661 cars to 6,250, but those of merchandise, l.c.l., decreased from 19,000 cars to 18,496.

Week Ended November 4

Total loadings in the week ended November 4 were 88,532 cars, compared with 83,638 in the corresponding 1949 week. Grain loadings decreased slightly, viz., from 10,245 cars in the 1949 week to 10,116. Live stock loadings were up by one car, viz., from 2,678 cars in the week last year to 2,679. Coal loadings decreased from 7,683 cars to 7,407. Pulpwood loadings increased substantially, viz., from 1,810 cars to 2,873, and loadings of lumber, etc., were up from 3,506 cars to 4,888. Loadings of miscellaneous freight increased from 5,707 cars in the 1949 week to 5,877, but loadings of merchandise, l.c.l., were down from 18,623 cars to 17,902.

Week Ended November 11

Total loadings in this week were 85,170 cars, compared with 81,573 in the corresponding 1949 week. Grain loadings increased from 9,442 cars in the week last year to 9,600, while live stock loadings decreased from 2,973 cars to 2.722. Coal loadings increased from 6,763 cars in the week last year to 7,664. Pulpwood loadings were up from 2,075 cars to 2,799, and loadings of lumber, etc., from 3,854 cars to 4,789. Loadings of miscellaneous freight decreased slightly, viz., from 5,572 cars to 5 502, while loadings of merchandise, l c.l., were down from 17,474 cars to 17,208.

Cumulative Totals of Loadings

The cumulative total of cars loaded with revenue freight on Canadian railways to November 11 this year was 3,366,504, compared with 3,405,355 in the corresponding part of 1949 and with 3,523.331 in the corresponding part of 1948, the corresponding figures for Eastern Canada being 2,238.377, 2,197.197 and 2,340,689, and for Western Canada, 1,128,127, 1,208,158 and 1,182,642.

The cumulative total of grain loadings to November 11 in all of Canada was 262.356 cars, compared with 329,-748 in the corresponding part of 1949 and with 283,032 in the corresponding part of 1948, the corresponding figures for the cumulative totals of live stock loadings being 75,393, 81,566 and 101,888; of coal loadings, 269,136, 263,756 and 271,645; of pulpwood load-

(Continued on page 663)

Week Ended:—

	October 21			October 28			November 4			November 11		
	All Can.	East. Can.	West. Can.	All Can.	East. Can.	West. Can.	All Can.	East. Can.	West. Can.	All Can.	East. Can.	West. Can.
Grain	10.906	1,863	9,043	10 514	1.934	8,590	10,116	1,737	8,379	9,600	1.807	7,793
Grain Products	2,946	1,515	1,431	3,093	1,638	1,455	3,078	1,663	1,415	2,946	1,558	1,388
Hay and Straw	441	333	108	423	294	129	405	268	137	364	263	101
Fruits, fresh	748	149	599	736	80	656	659	72	587	431	67	364
Vegetables, fresh or green	1,202	1,109	93	1,364	1,266	98	1,141	1,057	84	1,021	949	72
Other Agricultural Products	1,470	304	1,166	1,456	431	1,025	1,453	512	941	1,235	362	873
Live Stock	2,568	863	1,705	3,057	1,018	2,039	2,679	959	1,720	2,722	974	1,748
Butter, Cheese, Eggs	103	53	50	108	47	61	115	53	62	102	60	42
Fresh Meats & Packing House Products (edible)	503	218	285	517	202	315	471	173	298	492	197	295
Other Packing House Products	39	24	15	39	15	24	39	15	24	52	31	21
Other Animal Products	85	69	16	95	71	24	123	74	49	99	79	20
Coal	7,711	3,997	3,714	7,557	3,821	3,736	7,407	3,821	3,586	7,664	3 880	3,784
Coke	692	612	80	754	672	82	769	621	148	704	615	89
Ores and Concentrates	4,913	3,013	1,900	4,992	3,218	1,774	4,588	3,072	1.516	4,174	2,765	1,409
Base Bullion, Matte, Pig & Ingot (non-ferrous metals)	546	345	201	541	350	191	617	417	200	708	431	277
Sand, Stone, Gravel, Plaster, Lime, Brick, Cement, Sewer pipe, Tile	5,400	3,938	1,462	5.185	3.737	1,458	5,010	3 681	1,329	4,796	3.657	1,139
Other Mine Products	2,346	2,161	185	2 208	2,029	179	2,151	1,968	183	1.874	1,712	162
Logs, Piling, Cordwood	1.366	358	1,008	1.223	274	949	1,208	225	983	1,171	202	969
Pulpwood	3,080	2,905	175	2,909	2,762	147	2,873	2 653	220	2,799	2,680	119
Lumber, Lath, Shingles	5,651	3,662	1,989	5,602	3,626	1,976	4,888	3,236	1,652	4,789	3,243	1,546
Other Forest Products	489	364	125	763	408	355	459	378	81	408	329	79
Gasoline, Petroleum Oils & Pdts.	4,693	3,480	1,213	4,274	3,297	977	4,565	3,271	1,294	4,396	3.112	1,284
Crude Oil	367	4	353	372	24	348	330	3	327	540	4	537
Sugar	354	273	81	354	290	64	270	198	72	250	190	60
Iron & Steel Pdts. (manufactured)	1.969	1,745	224	2,021	1,774	247	1,818	1,636	182	1,814	1,589	225
Implements, Tractors, Machinery, Boilers	595	473	122	408	394	104	548	447	101	521	382	139
Autos, Trucks and Parts	1,538	1,464	74	1,238	1,181	57	1,193	1,135	58	1,060	1,008	52
Fertilizers	734	324	410	856	346	510	827	381	446	723	335	388
Woodpulp and Paper	4,438	3,819	619	4,518	3,938	590	4,485	3,888	597	4,515	3,854	661
Canned Food Products	474	337	137	532	369	163	468	310	158	490	311	179
Other Products of Manufactures and Miscellaneous	6 294	5,028	1,266	6 250	4,988	1,262	5,877	4,729	1.148	5,502	4.314	1.188
Merchandise, L.C.L.	18,072	13 356	4,716	18.496	13.645	4 851	17,902	13.188	4.714	17,208	12 854	4,354
Total Revenue Cars Loaded	92,733	51,159	34,575	92 555	58,139	34,416	88,532	55,841	32 691	85.170	53 813	31,357
In corresponding week of 1949	86,769	54,139	32.630	87,944	52,814	34,190	83,638	51.625	32,013	81,573	51,484	30,089
Received from Connections	35,296	32,371	2,925	36,243	33,103	3,140	36,753	33,878	2,875	34,146	31,218	2,928

Canadian Transportatio

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Quebec North Shore and Labrador Ry.

In connection with construction of the Quebec, North Shore and Labrador Ry., Iron Ore Co. of Canada subsidiary enterprise, for which, as noted previously, contracts were awarded Cartier Construction Co., Montreal, MacNamara Construction Co., Ltd., Toronto, Fred Mannix Co., Ltd., of Calgary, and Morrison-Knudsen Co. of Canada, preliminary work is under way. At Sept Isles (Seven Islands), St. Lawrence River port about 360 miles northeast of Quebec and southern terminus of the projected railway, temporary docking facilities are being built for the unloading of heavy equipment, and the company sawmill is turning out timber required for construction purposes. The expectation is that, this winter, equipment will be distributed along the southerly hundred miles of the route, and that considerable rock work (tunneling, as well as taking out of rock cuts) will be completed. Airfields will be prepared at a number of points along the route, for servicing of camps, and earthwork will be begun in the spring.

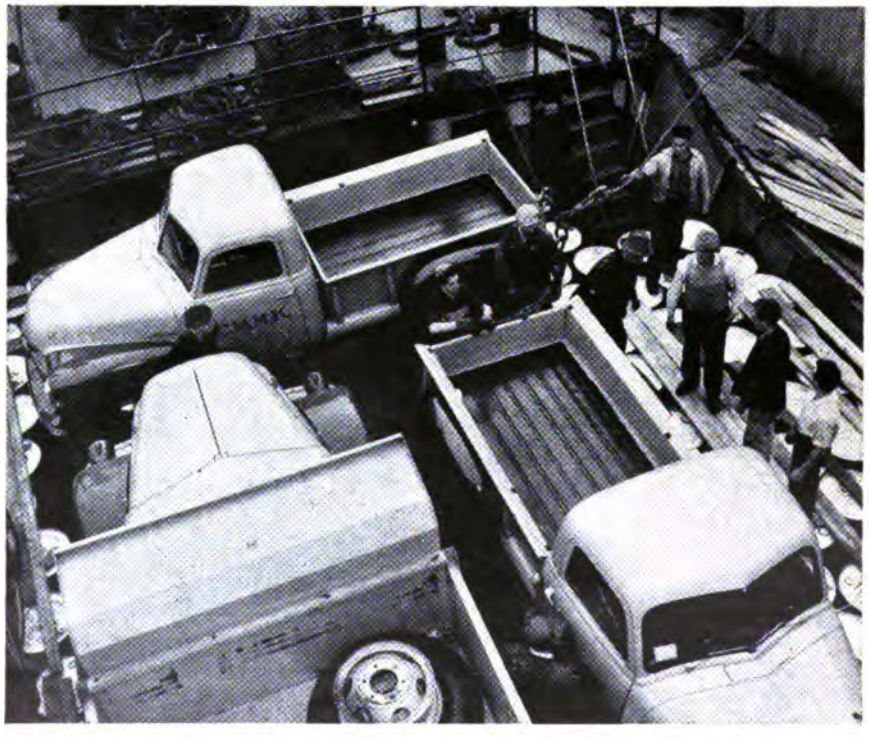
Financing. — The parent company, Iron Ore Co. of Canada, is reported as having issued $100 million 3¾% first mortgage bonds, due in 1977, which are being subscribed for by four Canadian and 15 United States insurance companies. The capital structure is said to authorize $125 million in these first mortgage bonds, $40 million in income debentures and $60 million in common stock. The junior securities, it is stated, are being taken by the Iron Ore Co. of Canada stockholders, which are:—Armco Steel Corp.; Hanna Coal and Ore Corp.; Hollinger Consolidated Gold Mines, Ltd.; Hollinger North Shore Exploration Co., Ltd.; Labrador Mining and Exploration Co., Ltd.; National Steel Corp.; Republic Steel Corp.; Youngstown Sheet and Tube Co., and Wheeling Steel Corp. The parent company is stated to have retained the engineering firms of Stone and Webster, Coverdale and Colpitts, Sanderson and Porter and the Canadian firms of C. D. Howe Co., Ltd., and Montreal Engineering Co., Ltd., in connection with various aspects of the project.

As stated in a preceding issue, the intention is to operate the 360-mile railway with Diesel-electric locomotives.

Over 400 million tons of high grade iron ore has already been blocked out.

Complete financing of the Labrador iron ore project is estimated to require between $125 million and $150 million; the railway is expected to cost about $50 million; rolling stock and other equipment between $40 and $50 million; hydro-electric power projects, about $7 million; mining equipment and buildings, about $18 million, and terminal facilities at Seven Islands between $10 million and $15 million.

The board of directors of the Iron Ore Company of Canada is reported as consisting of George M. Humphrey, President of The M. A. Hanna Co.; Jules R. Timmins, President of Hollinger Consolidated Gold Mines Ltd.; C. M. White, President, and W. W. Hancock, Secretary of Republic Steel Corp.; W. W. Holloway, Chairman, and



G.M.C. Trucks for Labrador Railway Construction Work, Being Loaded aboard Ship at Montreal, on Their Way to Seven Islands

Biggar, Sask. He became General rdmaster at Kamloops Junction, ., in 1949.

Emil S. Cusack, whose appointment Night Chief Dispatcher, C.P.R., ndon, Ont., was recorded in our gust issue, was born at Woodstock, t., February 12, 1898. He began his lway service as an operator on the dbury Division in 1915 and subquently was employed as: May, 3, operator, Trenton, Ont.; July, 3, operator, London; 1926, Relief spatcher, London; and, 1939, Perment Trick Dispatcher, London.

William G. Davis, who was recently med Division Freight Agent, C.N.R., awa, was born at Montreal and gan his railway career as a clerk the Passenger Rate Bureau there 1921. Subsequent appointments re: Secretary to the General Pasger Traffic Manager and to the Vice sident, Traffic, Montreal; 1937, ight Traffic Representative, Mont-l; 1941, Travelling Freight Agent, ntreal; 1946, District Freight Agent, erbrooke, Que.; 1947, Chief Clerk, ice of Vice President, Traffic, Mont-l; and, 1949, Division Freight and strict Passenger Agent, North Bay, t.

B. C. Gardner, President, Bank of ntreal, was made a director of the P.R. Co., November 13, filling the cancy caused by the death of H. P. binson.

G. R. Greenough, who was recently pointed Assistant Superintendent, w Glasgow Division, C.N.R., New asgow, N.S., was born at Meagher's ant, N.S., and entered the employ the railway in February, 1917, as a omotive wiper, Truro, N.S. Subquently he served: December, 1917, eman, Truro; May, 1940, locomotive gineer, Stellarton, N.S.; October, 40, Road Foreman of Engines, New asgow Division; and, 1944, Master chanic, New Glasgow. Mr. Greenugh was on military service overs, May, 1918-June, 1919.

R. A. recentl gineer, Plum C educat toba a his de 1930. ice in regula durin specto man, ing, U Engin ment tario gradu tation appoi couve pacit gina, Road Divis 1944,



Edward C. Champ,
neral Freight Agent, C.N.R., Toronto

R. A. Emerson, B.Sc. (C.E.), who was recently appointed Assistant Chief Engineer, C.P.R., Montreal, was born at Plum Coulee, Man., April 12, 1911, and educated at the University of Manitoba and Yale University, obtaining his degree at the former institution in 1930. He entered the company's service in 1928, and until he joined the regular staff in April, 1935, served, during the summers, as rodman, inspector of rock ballasting and transitman, as instructor in Civil Engineering, University of Manitoba, Locating Engineer, and instrumentman, Department of Northern Development, Ontario Government, and took a postgraduate course in railway transportation at Yale University. He was then appointed transitman, C.P.R., Vancouver, and served in a similar capacity at Revelstoke, B.C., and Regina, Sask. In 1939 he was appointed Roadmaster, Deloraine, Man.; later, Division Engineer, Moose Jaw, Sask.; 1944, Assistant District Engineer, Vancouver; 1946, District Engineer, Vancouver; 1948, Engineer of Track, Montreal. Mr. Emerson is a member of the Engineering Institute of Canada, the American Railway Engineering Association, and the Corporation of Professional Engineers of Quebec.



R. E. Grant,
whose appointment as Division Engineer, C.P.R., Moose Jaw, Sask., was recorded in our November issue, pg. 604.

Fred T. Jarvis, who was recently appointed Chief Clerk to the Vice President, C.P.R., Montreal, is a native of Somerset, England, and joined the company at Calgary, Alta., in 1917. He filled various stenographic, clerical and secretarial positions in the Superintendent's and General Superintendent's offices at Calgary until 1932, when he moved to Edmonton, Alta., as Assistant Chief Clerk to Superintendent. In 1934 he returned to the General Superintendent's office at Calgary, and in 1944 became Assistant Chief Clerk to the Vice President and General Manager at Winnipeg. He was appointed Assistant Chief Clerk to the Vice President at Montreal in 1945, holding this position until his recent promotion.



E. A. Lavery,
Division Freight and District Passenger Agent, C.N.R., North Bay, Ont.

George Keefe, whose appointment as Assistant Superintendent, Portage-Brandon Division, C.N.R., Winnipeg, Man., was recorded in our September issue, was born at Biggar, Sask., and began railroading in 1940 as a trainman at Edmonton, Alta. After a year he served overseas with the Canadian forces in World War II, returning to the railway in 1943. He was promoted to conductor in 1944, and in 1948 assumed duties of Trainmaster at Hanna, Alta.

N. M. Kelly, B.A.Sc. (C.E.), who was recently appointed Assistant Engineer, Office of Engineer of Maintenance of Way, Eastern Region, Toronto, was born in London, Ont., September 9, 1909, and graduated with his degree from the University of Toronto in 1937. Entering C.P.R. service in 1928 and serving in the summers until 1931 as rodman and with maintenance of way gangs, he entered full-time service in May, 1937, as draftsman, Toronto. After being transitman, he was appointed: April, 1941, Assistant Engineer, Toronto; June, 1941, Assistant to District Engineer, North Bay, Ont.; 1942, Division Engineer, Farnham, Que.; 1947, Division Engineer, Montreal Terminals. He is a member of the Association of Professional Engineers of the Province of Quebec and of the A.R.E.A.

E. A. Lavery, whose appointment as Division Freight and District Passenger Agent, C.N.R., North Bay, Ont., was recorded in our October issue, was born at Hamilton, Ont., June 9, 1896, and entered the company's service in 1913 as clerk there. Subsequent to serving in various clerical capacities and on military service, 1915-1919, he was named: Travelling Freight Agent, London, Ont., in 1927 and at North Bay in 1930; and District

ars ago and since has served as In-
ector at Edmonton and Calgary,
a., and Vancouver. In 1946 he be-
me Superintendent at Moose Jaw,
sk. Mr. Tombe served overseas
ring World War I.

H. B. Timmins, who recently retired Auditor of Miscellaneous Accounts, P.R., Montreal, joined the company re in 1898 as a clerk in the Auditor Passenger Receipts' Office. In 1910 was transferred to Vancouver as sistant Accountant and returned to ntreal in the same capacity in 1935. bsequently, and at Montreal, he came: 1936, Accountant; 1937 Chief erk; 1944, Assistant Auditor of scellaneous Accounts; and 1947, the sition he held on retirement.

Aitken Walker, whose appointment Freight Traffic Manager, C.P.R., ronto, was recorded in our June ue, was born in Glasgow, Scotland, gust 23, 1885, and after early rail-y experience in Scotland, came to nada and was employed as a clerk the office of the Auditor of Stores d Mechanical Accounts, C.P.R., innipeg. After holding a number of sitions in C.P.R. service in Winni-g, chiefly in the Freight Department, was appointed:—1918, Chief Clerk the Freight Traffic Manager, Mon-al; 1926, Assistant General Freight gent, Eastern Lines, Montreal; 1930, neral Freight Agent, Montreal, and, 1934 at Toronto. In 1948 he was ade Assistant Freight Traffic Man-er for Ontario, Toronto. He was esident, Transportation Club of To-nto, in 1945.

G. E. Warner, who was recently pointed Auditor of Payrolls, C.P.R., ontreal entered the service in 1912 a clerk in the office of the Auditor Disbursements there. Subsequent sitions, all at Montreal, were 1926, hief Clerk to Vice President and omptroller; 1933-35, service with the perating Department; 1935, Chief int Facility Accountant; 1936, As-stant General Auditor; 1943, Assist-t Auditor of Payrolls; 1947, Assist-t Auditor of Miscellaneous Ac-unts; 1948, Assistant General Audi-r; 1950, Auditor of Miscellaneous ccounts.

A. J. Wolfe, who recently retired pension from the position Supervisor of Maintenance of Way, airie and Pacific regions, C.P.R., innipeg, Man., began work for the mpany in 1900 as a water boy and extra gang work and in 1909 be-me a section foreman in Muskoka. bsequently he served the company r 41 years, at Outlook, Portal, Swift rrent and Indian Head in Saskat-ewan, in British Columbia and at innipeg. During the 13 years he as Supervisor of Maintenance of ay he was one of the road's most avelled men.

M. Woolley, whose appointment as neral Air Brake Inspector, C.P.R., innipeg, Man., was recorded in our tober issue, entered the company's rvice in 1929 as a machinist appren-e there. Subsequent to serving in



Frederick V. Selbert, B.A.Sc., M.E.I.C., who retired recently from the position of Industrial Commissioner, Western Region, C.N.R., Winnipeg.

other positions at Alyth, and Medicine Hat, Alta., he was appointed:—1941, Machinist Instructor, Ogden; 1942, Assistant Foreman, Ogden; 1944, Air Brake Instructor, Western Lines, Winnipeg; 1946, Air Brake Foreman, Ogden Shops, Calgary, Alta.; and later, Shop Foreman, Winnipeg Roundhouse.

1949 Statistics

(Continued from page 658)

record $831,456,446, up 2.9%, or by nearly $23,330,000, as against the gain of $18,565,000 in operating revenues. Net operating revenues were consequently reduced from $67,705,835 in 1948 to $62,940,818 for 1949. Higher material costs were largely responsible for the proportionately greater increase in operating expenses. Price indexes for practically everything the railways use tended to average higher in 1949. The wholesale coal price index stood at 162.2 against 157.0 in 1948 on the 1926=100 base. Cement was up from 123.2 to 127.5. Building and construction materials rose from 195.7 to 201.5, while iron and non-ferrous metals and products advanced from 156.0 to 162.8. With a lower net, railway tax accruals eased from $19,695,531 to $18,160,336, and compared with $10,034,137 in 1939, when net operating revenues were $62,805,810. The percentage of the net going to railway tax accruals thus rose from nearly 16 in 1939 to 29 in 1949. Hire of equipment and joint facilities rentals were $14,221,664 for the year, down $625,964 from 1948.

The resulting net operating income for 1949 was $30,558,818, a reduction of $2,603,858 or 7.9% from the preceding year's. Non-operating income, largely dividends and subsidiary earnings, was $39,632,404 for the year, off nearly $3 millions from the $42,612,827 shown for 1948. Interest payments on funded and unfunded debt were heavier at $66,688,037, compared with $65,901,400 in 1948. All other non-operating expenses increased from $12,169,840 to $15,948,905. The net corporate income deficit for all Canadian railways was thus $12,445,720 on 1949 operations, compared with one of $2,295,737 in 1948, a worsening, despite record revenues, of nearly $10,150,000. Sixteen of the 32 railways reported deficits. The Canadian National lines, with an interest burden of $46,122,028, had a deficit of $42,478,912 of which a portion was due to the addition of the Newfoundland lines, where a deficit of $2,584,000 was shown in net operating revenues and to which must be added, taxes, interest and other charges.

Following are the net corporate income figures for the railways of Canada for the years 1939-1949 inclusive.

1939	*$27,298,993
1940	3,759,598
1941	40,403,934
1942	73,288,955
1943	84,062,527
1944	61,691,665
1945	51,941,093
1946	13,212,314
1947	18,149,697
1948	*2,295,737
1949	*12,445,720

*Deficit.

For 1949, the United States lines operating in Canada reported credits of $4,389,430 and debits of $1,842,445, or net corporate income of $2,546,985, compared with $6,085,415 in 1948. The United States lines of the Canadian National System had a minor debit of $334 compared with one of $21,857 for 1948.

C.N.R. October Results

Canadian National Rys. (whole system) had much improved net earnings in October this year, compared with those in that month in 1949. Gross in the month this year was up by $8,842,000 and expenses by $3,468,000, with the result that the October net earnings, $10,438,000, exceeded those of October, 1949, by $5,374,000.

In the first 10 months of this year, C.N.R. gross was up by $39,859,000 and expenses by $6,056,000, and net earnings for the period this year were $45,255,000, compared with $11,452,000 in the first 10 months of 1949, a betterment of $33,803,000.

Car Loadings

(Continued from page 657)

ings, 144,170, 157,904 and 233,454; of loadings of lumber, lath and shingles, 198,548, 155,693 and 181,956; of loadings of miscellaneous freight, 245,863, 236,639 and 251,970, and of loadings of merchandise, l.c.l., 741,904, 807,407 and 815,770.

Rate Appeal Dismissed

Word at press time is that the Dominion Cabinet has dismissed the appeal of seven provinces against judgments of the Board of Transport Commissioners for Canada authorizing a 20% increase in railway freight rates.



Air Industries and Transport Association

The recent annual meeting of the Air Industries and Transport Association of Canada was well attended and fruitful. H. C. Cotterell, of Trans-Canada Air Lines, was re-elected President, and other officers were re-elected. The Minister of Transport, Mr. Chevrier, addressed the meeting.

The annual meeting of the Air Industries and Transport Association of Canada was held at the Seigniory Club, Province of Quebec, at the end of October and beginning of November, with H. C. Cotterell, of Trans-Canada Air Lines, President of the Association, presiding over the business sessions. On the afternoon of October 31 there was a panel discussion on "Financial Factors Affecting the Aircraft Industry", at which T. P. Fox, of Associated Airways, Edmonton, acted as chairman, with the following participating:—J. R. Baldwin, Chairman, Air Transport Board; R. B. Bryce, of Department of Finance; P. C. Garratt, of DeHavilland Aircraft of Canada; R. Keith, of Canadian Aviation; R. J. Moffett, of Canadian Car and Foundry Co., Ltd.; R. Ryan, of Canadian Pacific Air Lines, and J. Spilsbury, of Queen Charlotte Air Lines, Ltd. On the morning of November 1, C. F. Burke, of Maritime Central Airways, presided. Mr. Baldwin gave an address on "Explanation of New Board Regulations and Directives", and G. Carpenter, of The Gazette, Montreal, spoke on "Game Conservation and the Aircraft". J. Scholefield, Chairman, Aviation Training Division, A.I.T.A., spoke on "Aviation Training", and A/V/M F. R. Miller, of the R.C.A.F., gave an address entitled "Relations between the R.C.A.F. and Commercial Aircraft Operators". Mr. Keith spoke on "The Operator and His Public Relations", and R. A. Eastman, of Aviation Services, Ltd., spoke on "Aerial Agriculture".

The Association officers were re-elected, the officers for this year, in addition to President Cotterell, being:—Honorary Secretary, M. F. Ashton, of Central Northern Airways, Winnipeg; vice presidents, Mr. Burke and Mr. Fox; Honorary Treasurer, A. Bandi, of Aviation Electric, Montreal. The directors include the foregoing and C. D. Fairweather, of Canadair, Ltd., Montreal; Mr. Moffett; W. N. Deisher, of Avro Canada Ltd., Toronto; C. H. Dickins, of DeHavilland Aircraft of Canada, Toronto; Mr. Keith; D. Newey, of MacDonald Brothers, Winnipeg, and G. W. G. McConachie, of Canadian Pacific Air Lines, Vancouver. R. N. Redmayne, Ottawa, is Manager of the Association.

Address by Minister of Transport

The Minister of Transport, Mr. Chevrier, stated in his address that it was the first time that he had had the pleasure of attending the annual meeting of the Air Industries and Transport Association, and that he welcomed the opportunity of making the acquaintance of the many individuals responsible for the operation of commercial air services and for the manufacture and repair of aircraft in Canada. It is always good, he said, to be able to associate personal acquaintance with the names of the operating companies coming before him in the course of his work from day to day. He noted that the names of some of those present at the meeting are almost legendary in the history of Canadian aviation. After further preliminary remarks, the Minister stated as in the following.

Economic Position of Operators.—At your meeting a year ago, the Chairman of the Air Transport Board described economic trends which were becoming apparent. Since that time these have been accentuated. The position of the scheduled operators has been improving while a substantial number of irregular operators have grown substantially. Weaker operators have been eliminated or have dropped back and consolidations and mergers have strengthened the operating position. Total air revenues continue to increase.

Income of less than $17 million from all domestic air services in 1945 had grown by 125% to $40 millions in 1949 and if present trends continue this figure will increase by about 15% in 1950.

The revenues of Trans-Canada Air Lines increased materially during 1949 and for the first six months of 1950 are up 18% from $12 millions to $14 millions. An operating deficit during the first six months of 1949 of $1 million has been converted into a small profit during the same period in 1950.

The story as regards the private commercial operators of scheduled air services is equally encouraging. Two years ago there were only three of these carriers in Class A but to-day there are five. Their gross revenues which had grown slightly in 1949 have increased considerably during the first half of 1950 from $3.6 millions to $4 millions. An operating deficit in 1948 for this group was transformed to an operating profit in 1949 and present indications are that 1950 will see further improvement.

The other private carriers, i.e. those primarily concerned with non-scheduled operation, are growing slowly although taken as a whole they continue to show a deficit.

This position of irregular operators is not wholly satisfactory but at the same time analysis of the members



Mr. Cotterell is Congratulated by Members of the Executive upon His Re-election as president of AITA

From left to right appear C. D. Fairweather, C. H. Dickins, Mr. Cotterell, G. W. G. McConachie and R. N. Redmayne.

of the group shows that there are a substantial number of carriers in it who are sound and whose business is increasing steadily. The success of these ventures is offset by the results of more marginal and in many cases smaller operators within the group. On the whole, I am inclined to feel that the special nature of this type of operation and the peculiar circumstances which apply in many cases will mean that while business should continue to improve, the group as a whole may always show a somewhat marginal position. Nevertheless we recognize that further improvements should be sought and we are continuing to study methods of improving their position.

Commercial Aviation In War.— Judging by enquiries which have been received, many of you are wondering about the role of the airlines in relation to the growing emphasis on national defence. I am not in a position to give you any final or detailed statement as to what would happen in the event of overall emergency or outbreak of general war, but I can give you some indication of the lines which I think would be followed.

Transportation in time of war is of course a vital industry. Air transport becomes exceedingly important as the speediest means of communication in the rapid tempo of a wartime economy. Demands on most mainline and regular services would probably increase rather than diminish and the maintenance of these services would be essential to the economy. Further, the smaller private operators serving areas of economic importance where other transportation facilities are non-existent or inadequate to meet wartime requirements would also have important duties to perform.

If R.C.A.F. reserve squadrons are activated, the first duty of personnel who are members of the reserve is, obviously, to their squadron. Apart from that, however, wholesale denuding of the key personnel of essential civil air operations would not be in accord with wartime needs. I am quite satisfied that the present close co-operation between military and civil air authorities will ensure that our manpower policy is worked out in a fashion which will not be ruinous to essential civil air operations.

Wartime conditions would of course demand maximum economy and maximum utilization. Moreover, certain of the smaller private operators who are not serving areas where air communications are essential might find their activities curtailed. The combination of these circumstances should mean that certain personnel could be released and as well it may mean that in some cases surplus aircraft will be available. This, of course, would be made known by the civil authorities to the R.C.A.F. and if these aircraft satisfied R.C.A.F. needs they would probably be taken over.

Apart from meeting civil demands for air transport there would undoubtedly be airlift problems connected with military transport. The ability of the civil operator to assist in this connection would not be overlooked. Where a civil operator is operating over a route involving military airlift and that civil operator is suitably equipped and in a position to render assistance, use would be made of his services by the military. The operation would probably remain on a civilian basis under contract to the military as in the case of Canadian Pacific Airlines at present in the north Pacific.

I am quite satisfied that civil aviation and military officials have worked out a satisfactory basis for consultation, designed to meet these problems as they arise. There would, of course, be an air priority system established and plans for such a system under the control of the Air Transport Board are well advanced.

There remains the possibility, that some of the smaller private operators would find themselves with aircraft to spare, particularly those in the more southerly areas where some of the small non-scheduled operations might become less important. It may be desirable for the operators themselves to give some thought to this problem to see in what fashion their experience and know-how could serve the national needs since they may be able to provide useful additional services.

Airport and Airways Policy.— I turn now to the question of airports. In the provision of adequate ground facilities, we are keeping well abreast of changing circumstances. I propose to outline very briefly the course which we follow.

The continuing development of our airways system in Canada together with the provision of airports to serve local needs but which do not lie on the airways system is our objective. This calls for a broad responsibility on the part of the federal government for the provision and operation of airports and airways facilities combined with a reasonable degree of municipal participation, necessary to maintain local support for aviation.

Our present pattern of airways provides good coverage for air services. This is particularly noticeable if you take into consideration the vastness of Canada, our limited population and the resources at our disposal. While changing conditions will in due course lead to the development of new airways, our efforts on the airways system over the next few years will be directed to the development and improvement of the existing pattern. We will, in addition, continue to make reasonable provision to assist other airports for which a strong degree of local need exists but which are not part of the airways system.

Because of federal responsibilities in the field of aviation the federal government undertakes the responsibility for the construction of the airports necessary for the airways systems in Canada. Construction used in this sense applies not only to the initial provision of airports but to any major improvements or reconstruction considered necessary. It



A Group at the Recent Annual Meeting of the Air Industries and Transport Association In the front row, from left to right, appear G. W. G. McConachie, of Canadian Pacific Air Lines, Vancouver; R. N. Redmayne, Ottawa, the Association Manager; H. C. Cotterell, of Trans-Canada Air Lines, Montreal, the Association President; the Minister of Transport, Mr. Chevrier; C. D. Fairweather, of Canadair, Ltd., Montreal; C. H. Dickins, of DeHavilland, Toronto, and John Baldwin, Chairman, Air Transport Board.—Back row, left to right, Edwin MacDonald, of MacDonald Bros., Winnipeg; C. F. Burke, of Maritime Central Airways, Charlottetown, P.E.I.; M. E. Ashton, of Central Northern Airways, Winnipeg; Romeo Vachon, of the Air Transport Board, Ottawa; R. J. Moffett, of Canadian Car and Foundry Co., Ltd., Montreal; B. Rebnett, of Shell Oil Co. of Canada, Ltd.,Toronto; A. Bandi, of Aviation Electric, Montreal; W. N. Deisher, of A. V. Roe Canada, Ltd., Toronto; T. P. Fox, of Associated Airways, Edmonton.

does not apply to ordinary maintenance. The standards which will be established for this construction are varied from time to time to serve the traffic needs and the type of aircraft employed.

In assisting the development of airports which are not on an airways system, the federal government will assist development through grants-in-aid. These are conditional upon adequate assurance of local participation as well, usually through the provision of at least the land required. Small local airports needed to promote the development of natural resources, or to serve a high local traffic potential, or where remoteness gives air travel a special importance, may receive a federal grant-in-aid. These grants usually will be limited to a maximum of $25,000. Development will normally take the form of a single strip.

There may as well be cases where sizeable airports, larger than the small municipal strips, are required to serve special local conditions, although these are not part of the airways system and therefore are not full federal responsibility. Each such case will be reviewed on its merits, and provision for special assistance or participation on a larger scale may be made. Cases such as this will relate almost entirely to fairly important airports which are likely in due course to become part of our main airways system.

I turn now to the question of airport maintenance and operation. Ordinary maintenance of an airport is the responsibility of the operator of the airport. On the main airways system certain municipalities have taken over airport operations, but, where no municipality has wished to assume this responsibility, the federal government is prepared to maintain and operate the airport. The extent to which municipalities should continue to take over the airports on the main airways system is a matter which I presently have under review. Difficulties are created by the fact that the only major airports taken over, or likely to be taken over, by municipalities are those which have reached or should shortly reach a self-supporting basis.

Off the airways system, at small fields and at the larger airports which have received federal assistance, the government will expect local authorities, public or private, to assume responsibility for operation and maintenance.

As for the provision of air traffic control and radio aids to navigation, —it is obvious that these must operate to a common standard and under a common direction. Our responsibility for the main airways system means that we must provide a minimum level of air navigation facilities and air traffic control on our airways. This level will be determined according to the volume of traffic and the improvements in technical developments which take place from time to time.

You will appreciate that this policy must also be carried out within the limitations of the money made available to us by Parliament for this purpose. The number of projects which might qualify for assistance or which should be undertaken by the federal government is always likely to exceed the number permitted by the funds at our disposal. We must, therefore, use our best judgement in selecting those projects which are most important and urgent.

In conclusion I repeat the views that have previously been expressed to you by my officials regarding the importance of this Association. We place considerable value upon the advice which we receive from it. Frequently both the Air Transport Board and the Department of Transport, Air, come to you to obtain the views of the operators in the field regarding various regulations or policies which they are considering. You in turn have quite frequently requested my officials to speak to you formally or to meet with you informally for the same purpose. I wholeheartedly support this continued close consultation as a means of working out policies that are in the best interests of civil aviation.

I have no need to tell you how much importance I place upon the role of aviation in Canada. It has played a great part in developing remote areas and providing better means of communication in settled areas. Its growth since the war has been particularly encouraging. It is our desire to further this growth with a view to the establishment of an even larger air transport industry on a sound and self-supporting economic footing.

Air Transport People

Fred T. Smye, previously Assistant General Manager, A. V. Roe Canada Ltd., has been made a member of the board of directors and Executive Vice President of that company. During the second world war he was Director of Aircraft Production and a member of the Aircraft Committee of the joint United States-Canada Production Board. He was also Assistant General Manager, Federal Aircraft, Ltd.



Fred T. Smye,
a Director and Executive Vice President, A. V. Roe Canada Ltd.

Loss of Helicopter From Ss. C. D. Howe

When the Canadian Government ss. C. D. Howe was on her northern trip during the past summer, she lost the helicopter with which she was equipped, as it attempted to take off from the flight deck, one man having been drowned. The Minister of Transport, Mr. Chevrier, authorized an enquiry into the loss of the helicopter, and a statement in regard to the Board's findings was issued by the Transport Department on November 14, as in the following.

The accident occurred on August 5 last at Ungava Bay during the patrol by the C. D. Howe, in Canada's Eastern Arctic waters. One man, a passenger on the helicopter, was drowned as the craft plunged into the waters of the Koksoak River during an attempted take-off from the vessel's flight-deck.

In its report, the Board disclosed that from the available evidence, "the immediate cause of the accident was that the helicopter was unable to rise, since a tie-down device had been left attached to the side of the helicopter, and the deck of the ship, and the underlying cause of the accident was lack of inspection previous to flight."

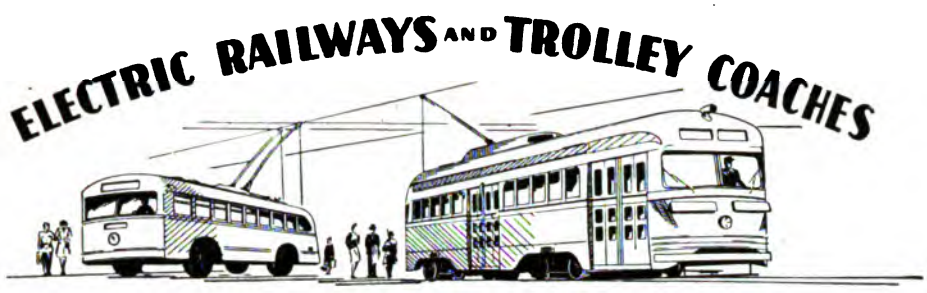
The report of the Board showed that six tie-downs were employed in securing the helicopter on the aft deck of the C. D. Howe but only five of these could be located after the accident. Recovery of the helicopter from the river bed indicated that one tie-down might have been attached during the attempted take-off. This was later confirmed and established the reason for take-off failure.

The Minister stated that recommendations by the Board to insure prevention of similar accidents have been approved and promulgated to all concerned. Disciplinary measures had been taken by the Department in connection with the loss of the aircraft.

C.P.A. Trans-Pacific

Advice of November 30 is that two four-engined aircraft have been added to the Canadian Pacific Airlines trans-Pacific fleet, making a total of five four-engined planes operating on the Vancouver-Antipodes and Vancouver-Tokyo-Hong Kong routes. The new planes are DC-4 aircraft bought in the United States, powered by 1,450 h.p. Pratt and Whitney engines.

Recently, the C.P.A. President, G. W. McConachie, predicted the use of jet aircraft on the trans-Pacific routes within 18 months.



Nova Scotia Light and Power Co.

Nova Scotia Light and Power Co. and wholly-owned subsidiaries had gross earnings in 1949 10% greater than in 1948, but operating expenses increased by 18%, and net income for transfer to surplus account decreased from $757,297 in 1948 to $509,247. The new trolley coaches, the company's annual report states, arrested a decline in transit traffic and replaced it by a substantial increase.

The annual report of Nova Scotia Light and Power Co., Ltd., for 1949, submitted to shareholders on behalf of the directors over the signature of J. C. MacKeen, President, notes that the revenues of the company and its wholly-owned subsidiaries, for 1949, amounted to $6,492,834, an increase of 10%, or $594,326, over those of 1948, while operating expenses, including cost of power generated and purchased, maintenance and general expenses, taxes (other than taxes on income) and provision for depreciation, amounted to $5,340,445, an increase of 18%, or $834,384, over the 1948 comparable costs. After payment of dividends on the preference and ordinary shares, a balance of $139,123 was carried forward in the consolidated surplus account.

In order to finance the expenditures on the construction and improvement programme, the company offered for subscription and issued during the year 22,572 4½ per cent cumulative redeemable preference shares of $100 par value and 83,810 ordinary shares of no par value, and $1,500,000 3½ per cent. series first mortgage bonds due November 1, 1972.

Electric Power.—The company's annual report notes that 1949 presented critical operating problems, with electric loads mounting steadily throughout the year. However, the company was again able to meet the increased demand for electricity throughout the year without any curtailment in service, or rationing. A new 3,200 kw. hydro-electric plant was placed in service in January, and a 3,400 kw. addition to an existing plant began operation in December. Construction of a 20,000 kw. steam generator plant in Halifax proceeded satisfactorily throughout the year, and the boiler entered service early in 1950, to feed existing plant. It was said that the 20,000 kw. steam plant would be completed in 1951. More than 3,000 new customers were added to electric lines in 1949. Sales of kilowatt hours for the whole electric system established another all-time record in 1949, at 248,417,012, and, of that output, 100,479,225 kw. hours were generated by steam at Halifax, an increase of 26,966,600 kw. hours over the 1948 output. The company's hydro and Diesel plants generated 105,414,987 kw. hours and the balance was purchased. Throughout the year the company continued its policy of using Nova Scotia coal, and, during the year, 99,270 tons were used in the steam generation and gas manufacturing plants. The year witnessed great activity in the company's rural electrification programme, and 266 miles of new lines built during the year made electric service available to more than 1,600 rural homes. This year has seen the completion of many lines which were under construction at the end of 1949, as well as a number of other extensions.

Gas Department.—During 1949, the gas department produced 202,198,400 cu. ft. of gas, compared with 212,404,300 cu. ft. in 1948, and the revenue from this department in 1949 was $267,666, compared with $280,912 in 1948. Operating expenses decreased from $265,031 in 1948 to $256,373.



The Canadian Car-Brill Trolley Coaches Operated by Nova Scotia Light and Power Co., Ltd., in Halifax, Are Giving a Good Account of Themselves.

Coaches to a total of 71 were in operation throughout most of 1950, and four additional vehicles, expected to be delivered in December, will bring the trolley coach fleet to a total 75 vehicles.

Transit Department.—Of particular interest to readers are the operations of the company's transit department, in view of the fact that early in 1949 the Nova Scotia Light and Power Co. electric railway system in Halifax was wholly replaced by a modern trolley coach system. Particulars of this change-over were presented in these columns at the time. Trolley coaches to a total of 71 were purchased.

In regard to transit operations of the company, the 1949 report states as follows.

"The transit department provided one of the highlights in the operations of your company during the year. On March the 28th, with appropriate ceremony, the major part of the conversion from trams to trolley coaches was accomplished. That day was a milestone in the long history of Halifax. Within a few weeks, all of the old tram cars had disappeared from the streets and Halifax became the first city in America to be entirely served by trolley coaches.

"During the year, these new vehicles have greatly changed the appearance of the Halifax streets and have been responsible for increasing the tempo of traffic throughout the city. The advent of trolley coaches was the big event of the bicentennial year.

"Following the end of the war, there was a steady decline in the number of passengers being carried by the transit system. The new trolley coaches, in their eight months of operation, have not only halted this decline but have caused a 14.5 per cent. increase in the number of passengers carried. Original planning estimated that sixty-five trolley coaches would be sufficient to render good service; but the large increase in the number of passengers made necessary the purchase of six additional vehicles. These went into service in December.

"During the year, 25,190,896 revenue passengers were carried, as compared with 23,293,621 for 1948. This increase of 8.15 per cent. for the year is partially offset by the fact that operating expenses are higher than were anticipated."

Financial Results.—The annual report presents two income statements, viz., one for Nova Scotia Light and Power Co., Ltd., by itself, and a consolidated statement of income for the company and its subsidiaries.

The income statement for the parent company by itself records that the 1949 revenue from electric, transit and gas services, including $2,230 miscellaneous income, was $4,957,579. Operating costs, general taxes and depreciation of $522,100 required an expenditure of $4,493,980, leaving $463,599 as net revenue from operations. The bond interest was $365,773, but on the other hand, the company received interest on investments, etc., amounting to $279,504, with the result that net income from operations was $377,330. Provision for income tax required $129,349, and amortization of bond discount, etc., $4,294, leaving $243,687. Addition of $300,000 in the way of dividends from subsidiary companies brought the net income for transfer to surplus account to $543,687. The balance in the surplus account at the end of 1948 was $1,490,767, and, after payment of dividends on the preference and ordinary shares, and sundry adjustments, the surplus at the end of 1949 stood at $1,604,269.

The income figures for the company and its subsidiaries record that in 1949 revenues were $6,492,834, and the operating, maintenance and general expenses, including $356,434 for general taxes (excluding income taxes) and $960,200 for depreciation, were $5,340,445, leaving net revenue of $1,152,389 from operations. Bond interest was $365,774, but on the other hand there was net interest on loans, etc., amounting to $45,032, leaving net income from operations at $831,647. Provision for income taxes was $299,000, and amortization of discounts, etc., $23,400, leaving net income of $509,247 for transfer to surplus account. The balance in the surplus account at the end of 1948 was $2,251,981, and after sundry adjustments and deduction of dividends on the preference and ordinary shares, the balance in the surplus account at the end of 1949 was $2,391,104.

Safety Work.—Nova Scotia Light and Power Co. places great emphasis on the promotion of safety in its operations, and in this regard the report states:—"The excellent safety record of the past year testifies to the good adherence to safety rules.

"The downward trend in our accident rate continued in 1949, and, during the year, there was not one fatal or serious accident. This record is encouraging and is proof that there exists in the minds of our employees a definite safety consciousness.

"The Company, for years, has endeavoured to lessen accident hazards by the introduction of safety devices and safety practices. Constant study is carried on to discover the possible sources and causes of accidents and to plan means of avoiding them.

"Added emphasis on safety was given during the training of our tram car operators in trolley coach operation.

"For the past two years, our safety slogan has been 'No job is so important that we haven't time to do it safely'."

Public Relations.—Displaying keen appreciation on the part of the management of the value of good public relations, the report states:—"The Company recognizes the desirability and the obligations of being a good citizen in each of the communities served. It is keenly interested in every worthwhile project, having for its objective the building of a better community and a better province.

"For many years, our efforts have had the two-fold purpose of, first, to provide good utility service, and second, to promote in every possible way the welfare of the districts that we serve, because the business of the Company increases in any community that grows and prospers.

"The staff of the Company are at all times ready to work with our customers in an effort to improve the efficiency and worth of our utility services. All of our employees are encouraged to participate in the affairs of the communities in which they reside."

Looking Ahead.—In regard to future prospects for Nova Scotia and the part played by the company in the development of the province, the report says:—"This Company serves the people of Nova Scotia in two ways. It provides vital and essential services, and, through its construction, payrolls, purchases and taxes, it contributes in an important measure to the economic welfare of the entire province and its citizens.

"Your directors and the entire personnel of your Company are enthusiastic about its future possibilities and are working together to build a sound and efficient organization in order to provide good service to the community, job security to the employee and investment security to the investor.

"Nova Scotia is still enjoying a period of growth and prosperity which is very favorable. Our part in the future prosperity of the Province is a substantial one, because good electric service has played a major role in the past and it must lead the way for further growth and development.

"Our confidence in the future of Nova Scotia is underscored by the fact that we expect to spend many millions of dollars in the next few years in order to continue the expansion and improvement to our services. This programme is dependent upon our ability to obtain additional capital, which in turn depends on an adequate rate of return. We have faith in the future and have every confidence that we will be able to proceed with our programme to give Nova Scotia the best in electric service."

Statement of Policy.—The company's report states:—"We are a business enterprise—dependent for success on the high quality and fair price of our service; on the skill, courtesy, and loyalty of our employees; on the confidence of our investors; and on the ability of our management to forecast and provide for the steadily increasing requirements of the areas we serve.

"In the conduct of our business, it is our policy to render service of the highest quality to our customers—promptly, courteously and efficiently—at prices consistent with a policy of paying fair wages to our employees, and paying a fair return to our investors who have provided the funds to make such service possible."

Officers and Directors.—In addition to President MacKeen, the Nova Scotia Light and Power Co., Ltd., directors are:—Harold P. Briggs; Dr. M. J.

Carney; G. MacG. Mitchell; A. D. Stairs; Denis Stairs, O.B.E., M.C., D.Eng.; J. McG. Stewart, C.B.E., K.C. (Vice President); A. Handfield Whitman, and W. N. Wickwire, M.B.E., K.C. N. T. Smith, M.I.E.E., A.M.I. Mech.E., is Manager of the company; C. J. Hayes, Secretary; A. W. Wentzell, Treasurer; Miss E. H. Doyle, Assistant Secretary, and W. L. Child, Assistant Treasurer.

On August 19, Hon. Walter H. Covert, a director since 1915, died. He had been President of the company for a time, but resigned in 1931 upon his appointment as Lieutenant-Governor of Nova Scotia. A. D. Stairs was elected a director to fill the vacancy.

Seventy-five Trolley Coaches at Year-end.—Recent advice from the Nova Scotia Light and Power Co., Ltd., management was that an additional four trolley coaches had been ordered, and that the expectation was that these vehicles would be placed in operation in December. As there were previously 71 trolley coaches in operation, addition of the four new vehicles makes a fleet of 75 trolley coaches.

Traffic Increasing.—Official advice was that there were 13,560,302 revenue passengers carried by the Halifax transit system in the first six months of 1950, compared with 12,328,054 in the first six months of 1949.

Montreal Moves Toward Public Ownership

Following adoption by the Montreal City Council on August 24 of a by-law (No. 1981) providing for the formation of the Montreal Transportation Commission, the Commission's personnel has been selected and preliminary organizational meetings have been held. Arthur Duperron, B.A.Sc., M.E.I.C., General Manager, Montreal Tramways Co., has been appointed Chairman of the Commission by the Quebec Government.

The Province of Quebec legislation to pave the way for municipal ownership of the Montreal public transportation system, and to provide for the formation of a "Montreal Transportation Commission", to "organize, own, develop and administer a general public transportation system for the benefit of the population of the City of Montreal and of the Montreal Metropolitan District", was presented fully in Canadian Transportation for May, beginning on pg. 261, it having been pointed out that the City of Montreal was authorized to establish a "Montreal Transportation Commission" by by-law, and that such a commission should consist of five members, with one, the chairman, appointed by the Quebec Lieutenant-Governor in Council, with three appointed by the Montreal City Council on report from the Executive Committee, and with one appointed by the cities and towns of the metropolitan district. It was specified that the report of the Montreal Executive Committee in connection with the appointment of the three members by the city council could be rejected or amended only by vote of the majority of the members of the city council. The legislation provided that the members of the commission must devote all of their time to commission service and must not have any other remunerative duty or appointment or hold any other public function; that the commissioners are to be appointed for a period of 10 years, and that any commissioner may, after 10 years' service. retire on a lifetime pension not exceeding $5,000 a year. It was specified that the new commission can acquire the Montreal Tramways Co. undertaking by purchasing the capital stock of the Montreal Tramways Co., provided that the deal secures the approval of the Quebec Electricity Board. Alternatively, it was provided that the new commission may proceed to expropriate either the capital stock of the Montreal Tramways Co., or the company's property, with the indemnity decided by an arbitration board of three members, with one appointed by the commission on recommendation of the Montreal Executive Committee, one



Arthur Duperron, B.A.Sc., M.E.I.C.
General Manager, Montreal Tramways Co., who has been appointed Chairman of the newly-formed Montreal Transportation Commission, created to take over and operate public transportation facilities in Greater Montreal.

by the Montreal Tramways Co., and the third (the board chairman) by the chief district magistrate. The legislation further provided that the commission can acquire the Montreal Tramways Co. property before its value is determined, by applying to the Superior Court of the District of Montreal at any time after action for valuation goes to an arbitration board, for leave to obtain possession of the property to be expropriated, and by making a deposit of $2,500,000 with the Provincial Treasurer, and the commission may, during the "period of prior possession", exercise all franchises and other rights of the company in relation to its transportation system. The commission is forbidden to raise fares during the first year of its operation. If any municipality served considers the fares set by the commission as unreasonably high, it may complain to the Quebec Transportation Board, and that Board may revise the fares as set by the commission. Under the legislation, the commission is forbidden to undertake the building of underground or elevated transit lines or expressways, but it is authorized to carry on all studies and research work and prepare plans and specifications deemed useful by it for the ultimate improvement of mass transportation in the territory served. The legislation gives the commission many other rights and also imposes many obligations upon it, complete details having been set out in the article in our May issue, in which, as stated, the legislation was reviewed fully.

Passage of By-law

The adoption of by-law 1891 by the Montreal City Council, for creation of the Montreal Transportation Commission, was preceded by a great deal of discussion in council. Much of the discussion centered on a feature of the provincial legislation which provided that in the event of control of the Montreal Tramways Co. property being acquired by purchase of the company's stock, the deal should be approved by the Quebec Electricity Board. Chairman J. O. Asselin of the Executive Committee introduced an amendment, to make the relative article in the city by-law read as follows:—"The commission, as agent of the city, may acquire, with the previous approval of the city council, on report of the executive committee, subject to approval of the legislature, by mutual agreement, the capital shares of the company, provided that the decision of the commission in that connection be previously approved by the Electricity Board."

Finally, this feature was covered by article 18 of the city by-law stating as follows:—"The Commission, as agent of the City, may acquire by mutual agreement the capital shares of the Company, provided that the

decision of the Commission in that connection be previously approved by the Provincial Electricity Board.

"The decision of the Commission concerning this acquisition shall receive the previous approval of the council, on report of the Executive Committee.

"The preceding paragraph shall however be subject to the approval of the Provincial Legislature.

"The Company's shareholders are authorized to sell by mutual agreement to the Commission the shares which they hold in the Montreal Tramways Company."

The effect of this article, it is seen, is that the price to be paid for the Montreal Tramways Co. stock would have to be approved by the Montreal City Council on report from the executive committee, provided this stipulation secured approval of the Quebec Legislature. However, the Quebec Legislature did not see fit to agree to this change, and although the by-law as it stands provides for prior city council approval of the price to be paid for the stock, this stipulation is of no effect. Similarly, the by-law was amended before passage to provide that in the event of expropriation of the Montreal Tramways Co. property the city council, on report of the executive committee, would have to give its approval to the determined value, but in this case, also, the provincial authorities were unwilling to agree, and the stipulation in the by-law as passed is of no effect.

Selection of Commission Members

Article 7 of the Montreal City by-law states in part as follows:—"The members of the Commission shall be competent, by reason of their experience in administrative matters or in mass transportation, or because of their technical qualifications or their professional attainments. All the commissioners shall be residents of the City or of the Metropolitan District, excepting the representative of the City of Montreal, who must be domiciled in Montreal."

Naturally, great interest was aroused in Montreal in connection with the selection of the commission members, and as early as October 4 the Montreal Gazette, in discussing the matter editorially, drew attention to the requirements of the commissioners as set forth in Article 7 of the by-law, as quoted above, and then said:—"It . . . is to be hoped that this requirement will be honored in the spirit of its obvious intention as well as in the letter. The appointees will have full need of ample and appropriate experience and inherent capacity if they are to do a proper job to meet public demand and the patent needs of mass transportation.

"That effective functioning of the commission will be no sinecure, but holding out a real challenge, was brought out in the Tremblay report. It noted, to begin with, that public ownership and operation of public service enterprises, especially monopolistic utilities, was just as fraught with dangers of imperfection and abuse as private control. In particular, said the report, public control 'diminishes the spirit of initiative and responsibility; it increases, in many cases, the cost of production and opens the door to state paternalism and political favoritism.'

"To fulfill its social purpose and gain public confidence and co-operation, the report emphasized, the new commission will have to discharge large and exacting responsibilities. It will have to embark on "a vast program" of improvements to the present system, likely to cost up to $25 millions, and especially providing for replacement by modern vehicles of "hundreds" of old and obsolete street cars. It will also be obliged, the report adds, to reduce expenses by strict economies; to improve the comfort and efficiency of service; and win the co-operation of both the public and the city administration.

"With the salaries set for members of the commission, ranging from $12,000 to $15,000 a year, it should not be unduly difficult to find men capable of carrying out such responsibilities, and willing to devote their best efforts toward doing so. It is to be hoped that the selections made will measure up to the requirements."

On October 19, the Montreal City Council met to receive a report from the Executive Committee on an appeal to amend by-law 1981, with the object of changing from 60 days to 70 days the time within which the executive Committee had been allowed to recommend the three city members of the transportation commission. The 60-day recommendation meant that the Executive Committee's report would have had to be presented by October 23, and the 10-day extension gave it until November 2 to make its recommendation. The city council granted the executive committee the additional 10 days sought. In the meantime, the outlying municipalities had sent their delegates to a meeting held for the purpose of selecting their member of the commission, and on October 18 it was announced that they had chosen Charles A. Sylvestre, K.C., a man who has given close attention to public transportation on Montreal Island over many years, and who, in the hearings before the Quebec Legislature committee last year, had successfully sought a basis on which the suburban municipalities could appeal against the fares fixed by the Montreal Transportation Commission should they be considered unduly high. The interest and anxiety in regard to the appointment of the three City of Montreal members of the commission were pointed up in a Montreal Gazette editorial of October 19, in which, after note had been made of the 10 days' delay granted the Executive Committee for making its recommendations, it was said:- "If it was felt that this time was being spent in persuading three men of high standing and competence to take on these very important jobs, there might even be considerable enthusiasm for the postponement.

"It is therefore up to the City Executive Committee to make clear to the Council and to the people that the delay is being sought in order that there may be time to get the best men available to serve. For there have been rumors that the delay is being asked so that, if members of the City Executive Commtitee or City Council should by any chance be chosen for the Transportation Board, a date would have been passed that would make it unnecessary to replace them before the regular elections in December. And this would appear to mean that there is more than a likelihood of one or more members of the Executive, who have been known to be angling for the jobs, being chosen by their fellows when the right time arrives.

"Now there is no reason why a member of the Executive Committee should not be a member of the Board if he is thoroughly qualified for the job by virtue of knowledge and experience. But there is certainly no reason for a member of the Executive to be appointed just because he has been chosen by the citizens, or proprietors or public bodies, to represent them at the City hall.

"The prospects of the Transportation Board, and in the long run of the whole traffic situation in Montreal, will depend to a very great extent on the calibre of the men chosen for the task now. Their selection is a grave responsibility, and the citizens of Montreal will be looking to the Executive Committee and to the individual councillors to see that it is exercised wisely and well."

Executive Committee Proposes J. E. A. Gibault, T. D. Robertson and A. Gagnon

Following a long meeting of the Executive Committee on October 27, Chairman Asselin announced that it had decided to recommend, as the city members of the Montreal Transportation Commission, J. E. A. Gibault, Chief of Research, Canadian National Rys.; T. D. Robertson, Secretary-Treasurer, Montreal Tramways Co., and Andre Gagnon, Assistant to the Executive and director, Alfred Lambert, Inc.

Mr. Gibault is a member of the Montreal Board of Research on Transportation and Traffic which studied Montreal transportation problems. Acting on its report, the city council decided to municipalize the tramways system.

Mr. Gibault started his engineering career in 1909 with the old Grand Trunk Ry. Co., and rose steadily in rank with that company and with the C.N.R. when the latter took over the Grand Trunk.

Mr. Robertson, a lawyer, is a graduate of McGill University. For a time he was associated with the

law firm of Audette and O'Brien. He joined the Montreal Tramways Co. as executive assistant to the president in 1940, and later became Assistant Secretary-Treasurer and Secretary-Treasurer in 1945. He still holds that post.

Mr. Gagnon, a native of Montreal, was educated there, graduating in commerce from the School of Higher Commercial Studies of the University of Montreal in 1935. He was managing director of The Acton Rubber Ltd. until 1949, when he came to Montreal as assistant to the executive of its parent firm, Alfred Lambert Inc. He is a director of both companies. He is executive Vice President of the Junior Chamber of Commerce of Canada and a past president of the province of Quebec federation of Chambres de Commerce des Jeunes. He has attended various international conferences on economic affairs, notably at Brussels and Rome.

The feeling in Montreal was that the Executive Committee had proposed three good men as Transportation Commission members representing the City, but it was recognized that, as the city council could by majority vote refuse to accept the Executive Committeee's recommendation, and as it was generally known that some of the city council members wanted the positions on the Transportation Commission for themselves, there was no certainty of the three men proposed being appointed commission members. The situation following the submission of the Executive Committee's report to the city council was well summed up by the Montreal Gazette in comment in its issue of October 31, when it was said:—"The three men nominated by the city executive to represent the city on the Montreal Transportation Commission meet in several prime respects the requirements, legal and otherwise, for desirable appointees to these positions. These requirements, while not the sole or complete tests of fitness for the important offices in question, are certainly preferable as a gauge of approval to some other yardsticks that might be applied—such as the political measure which some members of the City Council evidently wish to use.

"Indeed, a notable and immediately obvious characteristic of all three recommendations is that all three appear to be non-political. None of the three is publicly known to be affiliated with or adherents of any particular party, or even nominally active in political affairs. Apart from the support given their nominations by a majority of the city executive committee no political influence or solicitation has been aligned behind their selection. This is a major point in their favor, especially as against those who fail to measure up in these respects.

"Another basis on which the nominees are acceptable is that their qualifications of training and past activity comply with the stipulations laid down in the city by-law covering creation of the Transportation Commission. Patterned after the provincial legislation authorizing the Commission, the by-law requires that the commissioners shall be 'competent by reason of their experience in administrative matters or in mass transportation, or because of their technical qualifications or their professional attainments.' All of the three men recommended for approval by the City Council, at its meeting next Thursday, meet these statutory requirements in one or more respects.

"Mr. J. E. A. Gibault, who at 62 is the oldest of the nominees, has for more than 40 years been gaining experience, of steadily increasing scope and responsibility, in both 'administrative matters' and 'mass transportation'. Now chief of research in the Canadian National Railways department of research and development, he has previously served as district and divisional engineer, as engineer-economist, as divisional superintendent, and for several years was assistant general manager of the C.N.R. Atlantic region. He is highly rated by those acquainted with his work, both as an engineer and as an administrator of sound judgment in transportation matters.

"Mr. T. D. Robertson, a lawyer by profession, has been on the executive staff of the Montreal Tramways Company for 10 years, for the past five as secretary-treasurer. This experience, and his knowledge of the legal and financial aspects of company operations, would of course be of value to the Commission when it assumes control of the company transit system.

Mr. Andre Gagnon, a relatively young man (37) whose initial training was as an accountant-statistician, has had a rapid rise in the direction of industrial and financial operations grouped under control of Alfred Lambert Inc. While he has not been directly concerned with mass transportation, his 'technical qualifications' and 'experience in administrative matters' appear to conform to the stipulations of the by-law.

"These facts of record must be supplemented generally by agreement that all three men are industrious and dependable citizens. But having said these things, it must also be frankly recognized that they lack certain other qualifications which would make them fully and conclusively desirable, and their appointment difficult for any substantial number of city councillors to oppose. These factors undoubtedly will be seized upon at this week's Council session, especially by those anxious to see themselves or their special friends appointed to the Commission .

"By all indications, the majority of the city executive committee is aware of the intensive efforts being made to mobilize support among the councillors to upset the executive recommendations and name others in their stead, in particular members of the Council itself. Indeed, the executive members who voted against the three men named appear to regard them as little better than tentative nominations with little or no prospect of Council acceptance, but sent along merely as a device to bring the matter to a head with a full Council vote.

"It may be hoped that a majority of the Council will refuse to allow this highly important matter to be settled as a tactical manoeuvre, in a way that will only yield to political jockeying and the office-seeking ambitions of those whose sole qualifications are political.

"If councillors can suggest other men who more fully measure up to the basic requirements for such positions, it is their privilege to propose substitutions. It would be unfortunate, however, if those now nominated were to be replaced solely on a basis of political expediency and political reward to councillors not otherwise qualified."

Mayor Did Not Want Job

One member of the Montreal City Council and of the Executive Committee who had no ambition to become a member of the Montreal Transportation Commission was Mayor Houde. In discussion in the council chamber on October 30, some council members were of opinion that the mayor should be a commission member, but Mr. Houde terminated this line of thought when he issued a statement saying:—"I am informed that certain members of the council have the intention of proposing my name as a candidate for the transportation commission. I thank them for this mark of confidence, but ask them not to take such action. I wish to declare in a categorical manner that I have no aspiration for any other function than that which I now occupy. Within a short time, I will consult the people as to the future."

Council Selects Three of Its Own Members as Commissioners

The Montreal City Council met on November 2 to act on the Executive Committee's report, and, after considerable discussion, it refused to accept the recommendations therein contained. Instead, it proceeded to select three of its own members, viz., councillors Jean Constantin, Richard F. Quinn and Leonard Leger, as the city Transportation Commission members. Mr. Quinn is the Executive Committee Vice Chairman.

Editorial Comment Very Critical of Selections

In dealing editorially with the Montreal City Council's action in choosing three of its own members as commissioners, the Montreal Gazette stated in its issue of November 3, under the heading "A poor start for Transport Board", as follows:—"The appointees of the City Council to the projected Transportation Commission are a disappointing contribution toward starting off that body on a sound and well directed basis. In selecting

three of their own number, to replace the qualified private citizens nominated by the city executive committee, the majority of councillors appear to have labored under a complete misconception of the need and nature of the new body.

"The Council faced a real challenge and responsibility, of far-reaching implications, which emerged from legislation covering the matter and from the high hopes of thinking citizens. Both the law and public wishes are aimed at finding a stable, progressive solution to the city's traffic and transit problems. The Council's decision has fallen discouragingly short of measuring up to either the stipulations of the law or general expectations. It holds out uncertain prospects as to the effective ability of the Commission to deal with the important matters thrust upon it.

"Membership in the City Council should not, of course, exclude a man from consideration for appointment to the Commission, providing he is otherwise qualified by training, experience and attainments. It is another thing altogether to regard the position and record of a councillor as constituting the sole claim to selection, which seems to be the principle adopted yesterday by an overwhelming majority of the Council. The vote in effect classed the Council as the only proper and desirable source of appointees, and made of city representation on the Commission a preserve of attractive, well-paid jobs for civic politicians.

"The objection to this idea does not reflect on the particular individuals chosen to fill the city posts on the Commission—Messrs. R. F. Quinn, Jean Constantin and Leonard Leger. It would equally apply to any other trio of councillors who might have been chosen in the manner followed yesterday to implement a distorted concept of what was required. The plums of office have been parcelled out to members of a dying Council, who are thus saved the travail of seeking re-election in a few weeks. This sets a most unhappy precedent both for future staffing (or should it be stuffing?) of the Commission and for the administration of civic affairs generally.

"The action of the Council is all the more disappointing in that it involved at the same time the summary rejection of three suitably qualified non-councillors, recommended by the city executive committee. These men—Messrs. J. E. A. Gibault, T. D. Robertson and Andre Gagnon— may not have been ideal nominees in every respect. But their occupations and experience made them specifically and appropriately qualified for the duties they would have been called on to perform on the Commission.

"The cavalier manner in which all three were brushed aside, in favor of councillors with no particular or demonstrated capacity for dealing with transportation problems, is a regrettable act that will hardly encourage other responsible citizens to make themselves available for similar posts.

"If the Council majority considered one or all of the executive committee's nominees to be unsatisfactory, at least an effort could have been made to canvass other possibilities among private citizens before the councillors hastened to jam through appointment of their colleagues. The unseemly tactics adopted stand out in contrast to the sound and responsible course followed by Mr. J. O. Asselin, chairman of the city executive committee. He made a constructive, diligent effort to find desirable nominees and persuade them to let their names go before Council. And he followed the only proper and sincere course under the circumstances when he refused to accept appointment himself, despite the insistent willingness of many councillors.

"Mr. Asselin's conduct yesterday reflected the greatest credit on him, and lends added weight to the hope that he may be returned in the coming civic election to continue the labors as executive chairman which have been of such material benefit to the city's interests.

"The unsatisfactory representation given the city on the new transport board makes it all the more important that the provincial appointee to the Commission, who will automatically be chairman, should have the highest possible qualifications for the post."

City Council Appointments Defended

At a city council meeting on November 6, Councillor Hanley stated that newspaper articles and editorials criticizing the council's action in appointing three of its own members represented a deliberate attempt to turn the Montreal public against the appointees, and added:—"There is a St. James Street clique that tried to force us to accept certain names. We refused to accept the names given by this clique that wishes to control things in the city and be allowed to make exorbitant profits out of speculation in Montreal Tramways Co. stock. In our choice, the council showed that we considered the interests of the population as a whole and named capable men to the transportation board."

Councillor Ravary, who had proposed Mr. Leger as a commission member, praised the latter's qualities and competence, and said that the press reaction was unfair.

Mr. Asselin, the Executive Committee Chairman, protested against Councillor Hanley's use of the word "clique" and said that the Executive Committee's selections had not been influenced by any clique, but only by an honest effort to choose the best men possible.

Council Action Further Criticized

Stirred by the Statements of Councillors Hanley and Ravary, press comment on the city council's appointments was renewed, and in its issue of November 8 the Montreal Gazette stated in part:—"Members of the City Council, notably Mr. Frank Hanley and Mr. Herve Ravary, have made truculent retort to the criticism in the press and elsewhere of the Council's recent appointment of three of its own members to represent the city on the Montreal Transportation Commission. In so doing they have shown complete failure to grasp the issue of principle involved or the essential point of the criticism. They have also shown a regrettably distorted concept of the purpose and function of the Council in its present form of organization—a concept which last week's vote implied is shared by the majority of councillors.

"Defenders of the Council's action have chosen to interpret the objection to it, and to the rejection of qualified nominees recommended by the city executive committee, as a personal attack on the Council's choices and a slur on their qualifications. Their suitability or otherwise for service on the Commission is indeed a matter for discussion, certainly in comparison with the executive recommendations of acceptably experienced citizens, not members of Council. But this was not and is not the main basis of the protest against the Council's insistence on reserving the $12,000-a-year Commission posts for the "insiders" of the Council itself.

"For that matter, the qualifications or lack of them of the Council nominees were not given even cursory consideration in the course of the debate and voting procedure which resulted in the Council's decision. The sole test applied in brushing aside the 'outsiders' nominated and replacing them with councillors was membership in the Council, and their standing as 'good fellows' entitled to well-paid plums of jobs at the Council's disposal.

"It is this twisted yardstick of selection that has caused the dissatisfaction and disquiet over the appointments. The Transportation Commission was not created to give the Council a choice outlet of self-patronage, but as an opportunity and a challenge through which civic authorities could come to grips with the increasingly serious transit and traffic problems in this area. The majority of Council members have muffed the opportunity, and at the same time betrayed a cynical appreciation of Council's responsibility as a protector of the public interest."

Council Did Not Exceed Its Powers

While the city council's action in appointing three of its own members as commission members certainly did not meet with universal approval, it was within its right in proceeding as it did. This was emphasized by Councillor Emile Gauthier at the council meeting on November 6, and he added that in thus acting within its powers it had chosen the best transportation board possible.

Government Appoints Arthur Duperron as Commission Chairman

On November 8, Arthur Duperron,

B.A.Sc., M.E.I.C., General Manager, Montreal Tramways Co., was appointed Chairman of the Montreal Tramways Commission at a meeting of the Quebec Cabinet, Prime Minister Duplessis having issued the following statement in connection with the appointment:—"At the request of the municipal authorities of Montreal, the Legislature last session adopted a law giving the Montreal authorities the power to establish the Montreal Transportation Commission.

"I received yesterday from the Montreal municipal authorities an official notification to the effect that the City of Montreal had availed itself of its power and had adopted a by-law establishing this commission.

"In virtue of this law, the commission is composed of five members, three named by the City of Montreal, one by the cities and towns of the metropolitan district, and the fifth, who will be chairman, named by the Lieutenant-Governor in Council.

"In consequence, at a meeting of the cabinet today, an order-in-council was adopted, sanctioned by His Honor, the Lieutenant-Governor, in virtue of which an expert known for his knowledge of transportation and communications was named chairman and member of the Montreal Transportation Commission.

"The new chairman, Arthur Duperron, professional engineer, is a graduate of the Polytechnique School in civil engineering, is a doctor exsciences of the University of Montreal. Mr. Duperron was chief engineer of Montreal Tramways Company from 1927 to 1937, and since 1949 he has been general manager. Mr. Duperron was born in Nicolet, and after studied at Nicolet, later at Mont St. Louis, Montreal .

"I am deeply convinced that Mr. Duperron possesses a high degree of competence."

Biographical information in regard to Mr. Duperron appears under the heading "Mainly About Transit People" elsewhere in this issue.

Commission Personnel

To sum up, then, the Montreal Transportation Commission consists of Mr. Duperron as Chairman; Charles A. Sylvestre, K.C., representing the towns and cities other than Montreal served by the transit system, and Montreal councillors Jean Constantin, Richard F. Quinn and Leonard Leger.

Commission's First Task

The first big undertaking of the Commission, after it becomes organized and begins to function, is to determine upon the steps to be taken for the acquisition of the transportation system of the Montreal Tramways Co. As before explained, the Commission may get control of the transportation system by either one of two methods; it can negotiate with the Montreal Tramways Co. shareholders for acquisition of the stock, or it can proceed to secure control of the property by expropriation. About 26% of the Montreal Tramways Co. stock is owned by the Province of Quebec, through Quebec Hydro, these shares having been secured upon the acquisition of Montreal Light, Heat and Power Consolidated. Shawinigan Water and Power Co. also owns about 26% of the stock. The remaining 48% is held by the general public. No dividends have been paid on the stock since 1941.

Limited Working Capital Voted

At a meeting of the Montreal City Council on November 7, a $50,000 advance to the Transportation Commission was voted, to enable it to get functioning with minimum delay. The money came out of a budgetary provision for traffic voted last spring, having been part of a $200,000 estimate of which $80,000 was spent by the traffic research committee.

Space does not permit of the publication in this issue of the by-law providing for formation of the Montreal Transportation Commission, but we hope to be able to present the precise language of this by-law in an early future issue.

Board Sworn In

On November 14, in the chambers of Montreal City Clerk Mongeau, at the City Hall, the five transportation commission members, viz., Messrs. Duperron, Constantin, Quinn, Leger and Sylvestre, were sworn into office. Mr. Mongeau administered the oath, the Commission members declaring as follows:—"I declare that I will faithfully and honestly, impartially and diligently perform the duties of member of the said Commission according to law".

Secretary Chosen

Yvon Clermont, a lawyer, aged 33, who was secretary of the commission inquiring into Montreal traffic matters under the chairmanship of Judge Thomas L. Tremblay, has been elected Secretary of the Montreal Transporation Commission. Mr. Clermont was born in Montreal, and admitted to the Bar in 1941. Following his legal studies, Mr. Clermont studied at the School of Higher Commercial studies. He took the course of the International Accountants Society, Inc. of Chicago from October, 1942, to September, 1947. He was junior member of the law firm of Genest, Champeau and Guertin from March, 1941, to February, 1943, and then was an auditor in the Income Tax Department from February, 1943, to March, 1945, when he practiced accountancy with D. A. Menard, C.A. He returned to the practice of law in January, 1946, specializing in fiscal and corporation law.

Choice of Vice Chairman

The provincial legislation and the Montreal City by-law based thereon provide that the vice chairman of the Commission is to be selected by a majority vote of its members, with the selection approved by the Lieutenant-Governor in Council. It was re- from Montreal, November 22, that Mr. Quinn had been selected Vice Chairman on the preceding day, and that his name had been submitted to the Quebec Government for confirmation.

T.T.C. Equipment, Construction, Etc.

Recent equipment purchases by the Toronto Transportation Commission include 10 GMC 41-psgr. Diesel-powered motor coaches and five Twin Coach 45-psgr. suburban coaches. Vehicles on both orders are expected to be delivered in the first quarter of 1951.

Delivery of the ferry boat Thomas Rennie, originally scheduled for this fall, has been delayed until next spring; this craft is now expected to be available at the opening of navigation.

Over half of the 52 P.C.C. electric railway cars purchased from Cincinnati Street Ry. Co. had been delivered in Toronto to November 15, when 12 of the cars had been converted for operation on T.T.C. lines and placed in service.

Operation of ferry boats between Toronto and Toronto Islands by the Commission is terminating November 30; a tug service is provided by the city during the winter months.

Beginning October 23, the basic 10-minute service on the Commission's Mount Pleasant motor coach route has been given via Mount Pleasant Road, Heath Street, Welland Avenue, Inglewood Drive and Mount Pleasant Road with return via the same route, but the rush hour extra coaches continue to operate straight through on Mount Pleasant Road. The new basic service was inaugurated to provide public transportation for residents in Moore Park.

Construction Activities. — Rehabilitation of tangent track on Gerrard Street from Coxwell to Woodbine was completed November 16.—Rehabilitation of the entrance and exit special trackwork at the Russell car house on Queen Street was begun November 15; rehabilitation of special trackwork on McCaul loop began November 21, and rehabilitation of special trackwork at Woodbine loop on Queen Street East began November 20.—Five new safety zones are being installed on Danforth Avenue; they have 100 ft. platforms and are for the accommodation of rush hour operation of multiple-unit trains on the Bloor route. The curbs are being cut back at each location, to allow better movement of automotive traffic past the safety zones.

Progress on the Toronto subway construction work is covered elsewhere in this issue.

C.T.A. Regional Committee Meetings

At time of writing, November 22, the western regional fall committee meetings of the Canadian Transit Association have been held at Saskatoon, and plans are complete for the holding of the eastern regional meetings in Ottawa, November 27, 28 and 29. The Saskatoon meetings were held at the Bessborough Hotel and the Ottawa meetings are scheduled to be held at the Chateau Laurier.

Western Regional Meetings

The engineering committee meetings in Saskatoon were under the chairmanship of H. A. Couch, Superintendent of Equipment, Winnipeg Electric Co., the western regional vice chairman, with W. R. Simmons, Assistant Superintendent of Power Department, Montreal Tramways Co., the committee chairman, in attendance. A great many items were discussed. Several items taken up were of interest to members of all sub-committees of the engineering committee, while the other items were divided into groups, with the respective groups of particular interest to the members of the motor coach sub-committee, the rolling stock and trolley coach sub-committee, the way and structures sub-committee, the sub-committee on employee development, and the power and distribution sub-committee.

Items of interest to members of all sub-committees were:—Discussion on policy; selection manual; job description manual; job evaluation manual; opinions of operators and maintenance men regarding use of public address systems in vehicles, and, allied with this, the broadcasting of radio programmes with or without advertising.

Items of interest particularly to the members of the motor coach sub-committee, which were discussed, were:—

1. A comparative study of gasoline, L.P.G. and Diesel fuels. This assignment was suggested by the Executive Committee, with preliminary considerations including:—(a) A report on the operating characteristics and a comparison of the Diesels currently being used in Canadian vehicles. (b) The means necessary to obtain sufficient heat to maintain comfortable body temperature. The use of a booster heater. Propane engines are reported to be more efficient than gasoline and this will reduce the heat absorbed by the cooling system and available for body heating. (c) The use of kerosene as a fuel to reduce exhaust odours. (d) Comparative operation and maintenance costs. (e) Use of dome pistons vs. cutting heads to increase compression ratio. (f) The problem of increased burning of ignition points—reported characteristic of propane. (g) The problem of propane freezing at regulator inlet when tank pressures are high in summertime. (h) Consideration of suitable shutoff valve to prevent leakage of propane when bus is standing in storage.

2. Parking lot heaters.—(a) Outside storage of motor coaches in low temperature. (b) The use of parking lot heaters. (c) Other devices. (d) Infra red lamps.

3. Winterizing of Vehicles.—Some of the vehicles currently being produced do not provide sufficient heat to maintain a satisfactory interior body and engine temperature. What steps are being taken to obtain a satisfactory condition?

4. Detergents — Body Cleaning — Parts Cleaning.—(a) New developments on parts cleaning. (b) New detergents in use for either interior or exterior body cleaning. (c) Members are requested to list any new detergents currently being used. (d) The value of cleaning the underside of buses prior to major inspections.

5. Brakes — (a) Hand Brakes — Some of the hand brakes currently being produced require frequent adjustment, are prone to drag slightly and cause fires. Members are requested to review their experience and to consider if representations should be made to the vehicle manufacturer. (b) Brake Valves—What methods have been used to overcome the freezing up of brake application valves and air lines in low temperatures? (c) The D.P. (A) Brake—Experience of Operators.

6. Tire Mileage Contracts.

7. Standardization as a Principle.—In March, 1949, an advisory committee was appointed to consolidate the ideas of the operators on vehicle design and maintenance for submission to the trade. This subject will be reviewed and suggestions solicited. Another attempt will be made to obtain unanimous agreement with emphasis on one item such as a standard instrument panel.

8. Parts Interchangeability.—Identical parts are used in vehicles supplied by different manufacturers (clutch plates, belts, etc.) and are rarely supplied at the same price. Members are requested to list all parts of this type and identify them with all part numbers so that a list can be compiled.

9. Chassis Dynamometer—Its application, advantages and methods of use.

10. The use of a circular questionnaire sent out monthly to all properties requesting information on new developments. This questionnaire could then be turned into a circular letter for distribution to all member companies.

11. The flow meter—Its use in conjunction with radiator repairs.

12. Roto-caps—Their use in relation to valve life. What increased life (and in particular of sodium filled valves) has been apparent?

13. Welding of cylinder blocks and use of soft weld rods.

14. To what extent is line-boring of main bearings carried out and in particular with engines of monobloc construction (GMC-471 engine).

15. New tools and equipment.—Members were requested to bring details of any new tools or equipment which have either been purchased or made in their own shops, which either reduce labor costs or improve life of component parts.

Many items were discussed by the other sub-committees of the engineering committee, and we hope to present particulars of these subjects in the next issue.

The operating committee meetings in Saskatoon were under the chairmanship of John F. Intihar, Assistant Manager of Transit Operations, British Columbia Electric Ry. Co., the regional vice chairman of the committee, with R. Aitken, Superintendent of Traffic Department, Toronto Transportation Commission, the committee chairman, in attendance. The following were among the many subjects discussed.

1. Zone Fares.—Collection of same and the value of zone fare system to the industry.

2. Street Congestion.—Its effect on schedule speed and the economics of operation.

3. Transfers.—Type; Time Limit; Re-issue. Repunch old transfers for re-issue, or issue new ones. Abuse, etc.

4. Schedules.—Two definite principles—(a) A maximum scheduled operation whereby the schedule is based on the idea that each Monday, each Tuesday, each Wednesday, etc., is identically the same each and every week. This type of schedule results in a larger sign-up. or (b) A minimum scheduled operation whereby the schedule is based on the quietest day of the week, and for the other remaining week days this same schedule is increased or padded where necessary. This results in a smaller sign-up and of course allows for a much larger number of spare operators.

5. Sign-Ups.—(a) How many sign-ups per year, and are these based approximately seasonally? (b) Do any transit companies permit line sign-ups, if the result is that less runs are available than previously? Is the tendency now that companies are making their sign-ups very elastic, in order to meet the changing conditions of any particular day of the week?

6. Students' Identification Cards (for Scholars' fares).—Type; Control — in connection with hours tickets are valid, and use of cards when fare is being paid.

7. Lavatory Accommodation. — For operators and drivers on routes which

do not pass company property where such conveniences are available.

8. Non-Clearance Lines, and other street markings.—Value of same from an operating and safety standpoint. (Paper by E. C. Penney, Safety Engineer, T.T.C.)

9. Bus Stops.—Are companies using the principal of staggering stops? Is the reason that it not only prevents east-west buses both stopping at the same intersection, but also gives a fair service to the public, particularly those who use the bus for both going to and coming from work? What are the number of stops per mile in the downtown congested areas, and in the lighter outlying areas?

10. Educational Programmes. — For operating personnel and others, in relation to better public relations, and sound operating practice.

11. Looping.—Where the route terminates and the bus goes around the block, is the general practice to have the bus turn in a clockwise direction, in order that the bus continually turns to the right? If so, is the purpose of this to cut down potential accidents, while looping?

12. One-Way Streets. — Advantages and disadvantages to our industry.

13. Operators' Selection.—What are the physical standards, age standards, and intelligence standards? Do companies re-hire discharged personnel who have resigned? Are companies withdrawing the residence rule, due to the fact that good operators are difficult to procure? If so, what is the minimum residence rule, and does the Instruction Department place particular emphasis on City layout and street names, due to this fact?

14. Token Fares, instead of tickets or cash.—Advantages or disadvantages. Method of collection, re-sale, etc.

15. Point Inspectors.—What is approximately the number of point inspectors required per route mile? What system is used to provide enough instructors for rush hours? Do acting instructors work a full eight hour day? Do "loaders" do any inspecting, or do "loaders" in some cases sell tickets? (On this question, do any companies employ older or about to be retired operators to sell—not collect—tickets to the public before they board the bus or car?

16. Ticket Agencies.—For operators or drivers on routes which do not pass company property.

17. Route Supervisors.—What is the number of mobile route supervisors required per route mile?

18. Information to the Public.—The posting of actual schedules or service times of a particular route. Posting this information in special frames on steel or telegraph poles.

19. Traffic Fall-offs.—When passenger traffic is down, which alternative is the better: (a) to cut the service in order to save mileage and to maintain or increase cents per mile, or (b) to increase the service, whereby trying to get back lost passengers or to attract new ones by providing an obviously improved service.

20. What percentage of the population of the city should the local transit system lift each day?

21. How many seats should be offered per 1,000 people of population during maximum rush hours?

Among the subjects dealt with by the **claims and safety committee**, of which L. M. Vardon, Traffic Engineer, Toronto Transportation Commission, is chairman, were:—

1. Are your accidents increasing or decreasing during last 5 years?

2. What do accidents cost (a) in money (% of gross receipts)? (b) in public relations? (c) in service?

3. Do you find posters help in accident prevention?

4. Are supervisors necessary on feeder and suburban routes to maintain operating discipline?

5. Should the amount of damage of an accident affect the degree of discipline administered?

6. What is your experience in traffic markings on roadway?

7. What can we do about driver attitudes?

8. Do you retain your experienced operators?

9. What is the result of interviewing accident repeaters?

10. What methods do you use to get witnesses to accidents?

The public relations committee, of which R. W. Queen-Hughes, Director of Public Relations and Publicity, Winnipeg Electric Co., is chairman, in addition to holding joint meeting with the operating committee, gave consideration to the formulation of a minimum public relations, publicity and advertising programme suitable for use on transit properties outside of the big city class, and discussed the following features, among others, of such a programme:—

1. Should expenditures on such a programme be based upon a fixed minimum percentage of gross earnings?

2. The existing state of public relations.

3. The existing state of relations between employees and management.

4. The area served—its density of population, etc.

5. Available means of communication, e.g. newspapers, radio, mail services.

6. Objectives of programme.

Among the subjects discussed by the **employer-employee relations committee**, of which William Kierans, Superintendent of Personnel, Montreal Tramways Co., is chairman, were the following: — Discussion on wage fringes; Selection Manual; Job Description Manual; Job Evaluation Manual; equipment for assistance in selection and training of transit employees.

President Empringham in Attendance.—J. R. Empringham, Superintendent, Niagara, St. Catharines and Toronto Ry., and President of the Association, was among those in attendance at the Saskatoon meetings, and briefly addressed the opening session, at which the delegates had been welcomed to Saskatoon by Mayor J. S. Mills of that city. He referred to the resolution drafted on behalf of the Association, offering the Dominion authorities the full co-operation of the transit industry in any preparedness programme undertaken.

Delegates in Attendance.—In addition to Messrs. Empringham, Aiken, Simmons, Kierans, Queen-Hughes, Vardon, Intihar, Couch and Mayor Mills, mentioned in the foregoing, City Commissioner H. W. Balfour of Saskatoon and Aldermen W. J. Nesbit and R. H. Hunter of that city attended the opening session, and the following other delegates (with the properties represented appearing in brackets) were present:—H. E. King, (Secretary of the Association), J. Miller, C. H. Clancy and R. Gillespie (Toronto Transportation Commission); D. I. MacDonald; H. G. Stewart (Winnipeg Electric Co.); D. L. MacDonald, W. Robertson, G. P. Derbyshire and T. Ferrier (Edmonton Transit System); D. Savage and H. J. Merilees (British Columbia Electric Ry. Co.); B. S. Scharfe, S. E. Bushe, C. McLeod and D. Graham (Saskatoon Transit System); A. Murray, G. F. Stewart, K.C., T. E. Tribe and P. G. McAra (Regina Municipal Ry.); T. M. Ridley, R. S. Trussler and K. Gush (Calgary Transit System).

Transit Revenues, Expenses, Etc.

(Management's Figures)

Calgary Transit System

September:—	1950	1949
Revenue	$155,904.92	$150,994.83
Expenditure	115,759.35	134,844.70
Operation surplus	40,145.57	16,150.13
Total surplus	6,542.54	*7,412.63
Revenue passengers	2,330,040	2,233,947
Jan. 1-September 30:—		
Revenue	$1,514,319.79	$1,393,783.56
Expenditure	1,179,967.95	1,125,511.21
Total surplus	26,345.83	55,116.35

*Deficit.

Edmonton Transit System

September:—	1950	1949
Revenue	$204,909.75	$201,627.92
Expenditure	161,376.36	160,905.19
Operation surplus	43,533.39	40,722.73
Total surplus	*2,865.01	*993.20
Revenue passengers	2,728,440	2,792,310
Jan. 1-September 30:—		
Revenue	$1,956,036.26	$1,857,311.09
Expenditure	1,526,432.11	1,500,183.19
Total surplus	24,399.73	*21,599.91

*Deficit.

Regina Municipal Railway

September:—	1950	1949
Revenue	$64,003.47	$68,970.72
Expenditure	45,043.16	49,485.28
Operation surplus	18,960.31	19,485.44
Total surplus	*5,877.45	1,346.80
Revenue passengers	1,040,452	1,090,038
Jan. 1-September 30:—		
Revenue	$682,899.89	$680,302.29
Expenditure	495,431.61	584,097.63
Total surplus	*60,910.39	*84,731.75

*Deficit.

Saskatoon Transit System

September:—	1950	1949
Revenue	$39,999.93	$42,083.25
Expenditure	33,929.35	34,129.33
Operation surplus	6,070.58	7,953.92
Total surplus	*5,771.64	*4,567.73
Revenue passengers	669,905	716,662
Jan. 1-September 30:—		
Revenue	$429,081.34	$441,491.44
Expenditure	328,834.21	304,032.27
Total surplus	*8,891.47	21,124.70

*Deficit.

Mainly about Transit People

Arthur Duperron, B.A. Sc., M.E.I.C., General Manager, Montreal Tramways Co., was appointed, by Province of Quebec order in council passed early in November, Chairman of the new Montreal Transportation Commission, the body authorized to acquire and operate the Montreal Tramways Co. public transportation system. The commission is a five-man body, with three members appointed by the Montreal City Council, one by the towns and cities other than Montreal



H. E. King,
Director of Personnel, Toronto Transportation Commission, and Secretary, Canadian Transit Association.

served by Montreal Tramways Co., and one, the Chairman, by the Quebec Government, Mr. Duperron having been the Government's choice. Mr. Duperron, who was the 1943-44 President of the Canadian Transit Association, and who is now a member of the executive committee of that body, was appointed General Manager of the Montreal Tramways Co. near the end of 1949, after having been Assistant General Manager from February 13, 1942. He was born at Nicolet, Que., Sept. 29, 1889, and educated at Mont St. Louis College, Ecole Polytechnique, and Laval University, graduating from the last in 1911 with the degree of B.A.Sc. After conducting hydro-electric surveys on the St. Francis River, 1911 and 1912, he entered the Canadian Pacific Ry., as draftsman, Construction Department, in Aug., 1912, being transferred to the Bridge Department in 1913. From 1915 to 1927, he was associated with Quebec Streams Commission, being in charge of the survey party for storage purposes in Lake St. John; acting as Resident Engineer, Sauvage River bridge; being associated with either the design or construction, or both, of the Gouin, Lake Brule (as principal assistant to Chief Engineer), Lake St. Francois storage, Lake Aylmer, Quinze River, Lake Kenogami storage and the Mercier Reservoir, on the Gatineau River, dams; being in charge of survey for hydro-electric possibilities of Quinze River; and as Assistant Chief Engineer. In 1925, he was appointed Professor of Public Works for the part relating to the construction of dams, at Ecole Polytechnique. In Dec., 1927, he was appointed Chief Engineer, Montreal Tramways Commission. He is also a member of the Corporation of Professional Engineers of Quebec.

H. E. King, Director of Personnel, Toronto Transportation Commission, who, as recorded in our November issue, pg. 621, has been appointed Secretary, Canadian Transit Association, succeeding James F. Neild, was born at Weyburn, Sask., January 16, 1916, and was educated at Weyburn public and high schools, Regina Normal School and Manitoba University. He taught school from 1935 to 1939, having been vice principal at Weyburn. He joined the R.C.A.F. in 1939 and qualified as a pilot and as a pilot instructor. After returning from England, he was stationed at Air Force Headquarters in charge of basic air crew training in Canada for pilots, navigators and gunners. He held the rank of Wing Commander and was awarded the Air Force Cross. He entered Toronto Transportation Commission service as Personnel Supervisor upon leaving the R.C.A.F. in November, 1945, and was appointed Director of Personnel May 1, 1949. He has been a member of the Canadian Transit Association employee relations committee for the past two years.

L. Currie Young, previously Senior Electrical Engineer, Nova Scotia Light and Power Co., Ltd., was appointed Superintendent of the company's Transit Department, October 12, succeeding J. J. Sears, whose death in Halifax on September 13 was recorded in our October issue, pg. 567. Mr. Young was born in Sydney, N.S., and graduated from Sydney Academy in 1922, and Saint Francis Xavier College in 1925, with the B.Sc. degree. He worked one year for the British Armstrong-Whitworth Company in Cornerbrook, Newfoundland, in the construction of the pulp mill, and was also employed for one year by the Dominion Iron and Steel Co. as an electrician. He then took electrical engineering preliminaries at McGill University, Montreal, and graduated from Nova Scotia Technical College in 1930 as an electrical engineer. He joined the Nova Scotia Light and Power Co. upon graduation in 1930 as a student engineer, and served in all departments of the company. In 1935 he was appointed temporary general superintendent of the Demarara Electrical Co. at Georgetown, British Guiana. He then returned to Nova Scotia Light & Power Co. in the Chief Engineer's Department, and then served in the Light and Power Department until 1940. He joined the Royal Canadian Corps of Signals in March of that year as a lieutenant, and after various postings within the corps took over command of No. 1 Construction Company, Atlantic Command Signals. He volunteered for the Canadian Army Pacific Force and later was promoted to District Signals Officer, M.D. No. 6, with headquarters at Halifax. He retired from the Army October 8, 1946, as a major, and returned to the Nova Scotia Light and Power Co. in the Chief Engineer's Department, and was posted temporarily to the Newfoundland Light and Power Co. for an emergency assignment. He was in charge of design and construction required for the commissioning of the trolley coach system for Halifax, 1947-49. He was appointed Senior Electrical Engineer early in 1950. He is married and has three children. He was prominent in tennis circles, being at one time secretary-treasurer of the Nova Scotia Lawn Tennis Association and for two different periods served as tennis director of the Waegwoltic Club. He is a member of United Services Institute, Knights of Columbus, Waegwoltic Club, Engineering Institute of Canada and Association of Professional Engineers of the Province of Nova Scotia.



L. Currie Young,
Superintendent, Transit Department, Nova Scotia Light and Power Co. Ltd.

Winnipeg Electric Co. Traffic

In September, Winnipeg Electric Co. carried 6,972,886 revenue passengers, compared with 7,380,117 in September, 1949, a decrease of 407,231, or 5.5%.

In October, the Winnipeg Electric Co. carried 7,339,561 revenue passengers, compared with 8,089,239 in October, 1949, a decrease of 749,678, or 9.3%.

Canadian Transit Activity Reviewed

Revenue passengers carried by the transit properties in Canada declined in June this year from the number carried in that month last year, with recession largest in Quebec, Manitoba and British Columbia. Decline in total traffic was 4.1%, with urban traffic down 3.85% and interurban traffic down 7.5%.

The number of revenue passengers carried by transit properties in Canada, in urban service, in June, 1950, 116,782,183, represented a decrease of 3.85% from the total of 121,453,692 carried in urban service in June, 1949, while the number carried in interurban service in June this year, 8,891,653, represented a decrease of 7.5% from the total of 9,609,568 carried in June, 1949. The decreases in traffic were particularly noticeable in Quebec, Manitoba and British Columbia; in some sections of the two last-named provinces, flood conditions continued to disrupt normal traffic in June. Urban traffic improved appreciably only in Saskatchewan and Alberta, with small improvement in Ontario. Interurban traffic in June, 1950, gained over that of June, 1949, in Prince Edward Island and Alberta. Improvement in interprovincial bus traffic is noted, passengers carried in such traffic having increased from 82,032 in June, 1949, to 100,175.

The trend toward decrease in passengers carried by electric railway car, and that toward increase in passengers carried by trolley coach, in urban service, continued in June. Passengers carried by electric railway car in urban service decreased from 62,970,000 in June, 1949, to 56,508,023 in the month this year, while passengers in urban service carried by trolley coach increased from 12,497,467 in June, 1949, to 14,729,982 in June, 1950. There was a slight decline in number of passengers carried by motor bus in urban service in June this year.

Notwithstanding the decrease in urban traffic, revenue from urban services increased from $7,988,056 in June, 1949, to $8,650,637 in June, 1950, because of fare increases made effective during the one-year interval. The interurban revenue was slightly lower in June, 1950, than in the month in 1949, but the decrease in revenue was not nearly as large on a percentage basis as that in traffic.

While vehicle miles operated in urban service declined slightly in June this year, the decrease was not as large on a percentage basis as that in revenue. Vehicle mileage operated in interurban service, also, was lower in June this year than in the 1949 month.

Figures covering the activities of the Canadian transit industry, for June, 1950, are presented in the page-wide table accompanying this review; they record the passenger traffic, revenue, vehicle mileage and fuel consumption for the transit properties in each province individually, for interprovincial bus operators as a group, and for transit properties in all of Canada, and many comparisons with June, 1949, are presented. As in many preceding months, a number of Quebec bus operators who reported for the 1949 month did not report for June, 1950, and, to make the figures comparable, the statistics of these operators for June, 1949, are excluded from that month's totals for the Province of Quebec and for Canada as a whole, but such June, 1949, figures appear as a footnote to the table. The figures are supplied by the Dominion Bureau of Statistics, Public Finance and Transportation Division.

More Trolley Coaches For Winnipeg

In the period November 15-December 15, Winnipeg Electric Co. received 15 48-psgr. trolley coaches, model T-48-A, from Canadian Car and Foundry Co., Ltd., Automotive Division.

Record of Transit Activity in Canada, June, 1950
(With Many Comparative Figures for June, 1949)

Kind of Vehicle	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Inter-Provincial	Canada
Number of Passengers Carried—Urban Service											
Electric Car				21,389,031	27,228,297	2,906,279	1,336,524	723,237	2,924,655		56,508,023
Trolley Bus		2,009,726		1,241,950	3,244,790	2,009,677	282,554	3,168,403	2,772 882		14,729,982
Motor Bus		1,055,941	2,242,338	13,319,785	19,381,002	1,991,850	508,987	1,490,271	5,464,980		45,455.154
Chartered[2]		2,528	10,639	19,399	48.938	7,150			370		89.024
Total—1950		3,068,195	2,252,977	35,970,165	49,903.027	6,914,956	2.128.065	5,381,911	11,162.887		116,782,183
Total—1949x		3,178,532	2,322,120	[3]38,683,934	49,895,766	7,853,341	2,022,821	5,220,614	12,276,564		[3]121,453,692
Number of Passengers Carried—Interurban Service											
Electric Car				477.176	141.238				602,758		1.221.172
Motor Bus	32,899	301,132	328,482	2,000.349	2,768,602	326.573	105,330	260,849	880 810	100,175	7,105.201
Chartered[2]	607	2,298	7,252	105 087	419.217	2,420	120	306	27,973		565,280
Total—1950	33.506	303,430	335,734	2.582,612	3,329,057	328,993	105,450	261,155	1,511,541	100,175	8,891.653
Total—1949x	26,732	308,580	407,234	[3]2,683,174	3,743,413	380,638	113,200	255,120	1,609,445	82,032	[3]9,609,568
Revenue $											
Urban—1950		243.523	113.326	2,827,862	3,297,995	553,996	120,008	367,763	1,126,164		8,650 637
Urban—1949x		262,676	122,050	[3]2,244,506	3,284.857	561,410	121,640	361,655	1,029,262		[3]7,988,056
Interurban—1950	19,128	145 321	133,010	957,759	1,379,681	152,880	143,865	248.601	584,115	186,561	3,950,921
Interurban—1949x	20,486	167,230	134,026	[3]936,665	1,392,999	171,014	132,478	241,863	643,884	144,932	[3]3,985,577
Vehicle Miles Run—Urban Service											
Electric Car				2,633,720	3,200,424	391,350	80,855	100,622	507.359		6,914,330
Trolley Bus		221,141		153,542	418,771	292.563	97,951	425,249	525,738		2,134,955
Motor Bus		311,046	309,834	2,292,544	3,645,458	456,521	130,584	306,239	1,416,753		8,868.979
Chartered[1]		2,211	824	17,846	66,741	10,303	213	3,806	273		102.217
Total—1950		534,398	310,658	5,097,652	7,331,394	1,150,737	309,603	835,916	2,450,123		18,020,481
Total—1949x		552,535	312,887	[3]5,121,178	7,297,229	1,261,255	286,118	845,167	2,484,006		[3]18,160,465
Vehicle Miles Run—Interurban Service											
Electric Car				138,910	127,834				224,168		490,912
Motor Bus	65,413	449,262	421,418	1,899,365	2,914,907	399,033	439,053	599,673	1,196,958	428,079	8,813,161
Chartered[1]	553	5.739	5,217	157,614	352,349	12,647	520	11,530	40,249		586,418
Total—1950	65,966	455,001	426,635	2,195,889	3,395,090	411,680	439.573	611,203	1,461,375	428,079	9,890,491
Total—1949x	65,419	524,152	438,271	[3]2,290,741	3,579,686	526,774	405,209	575,568	1,531,404	332,080	[3]10,269,304
Fuel Consumed—Gallons											
Gasoline—Urban—1950		48,104	21,754	454,737	684,028	95,919	24,022	58,986	274,599		1,660,149
Gasoline—Urban—1949x		58,027	23,708	[3]421.814	658 062	104,999	26,878	40.389	287,692		[3]1,621,569
Gasoline—Interurban 1950	10,726	68.174	38,495	290,602	519,227	65,632	74,349	100,561	197,144	48.487	1,413,397
Gasoline Interurban 1949x	9,171	76.479	40,263	[3]311,009	543,348	78,922	67,930	94.352	209.514	43,900	[3]1,474,888
Diesel Oil—1950		2,367	52.127	83,092	69,847			4,393	6,791	16,736	235,353
Diesel Oil—1949x		1,203	48,666	96,635	70,450			6,151	1,545	9,549	234,199

[1]Includes miles run by all classes of vehicles in chartered service. x1949 data are revised.

[2]The number of passengers carried in chartered service is only approximate, as exact counts are not made for all trips.

[3]1949 statistics for Quebec carriers failing to report in 1950 are shown below. These are excluded above from the 1949 totals for Quebec and Canada.

	Bus Miles	Passengers Carried	Revenue $	Fuel Consumed—Gal.
Quebec—Urban				
Quebec—Interurban	73,690	99,387	20,946	13,728

Full Co-operation from C.T.A.

The Canadian Transit Association, by action of its officers and executive committee, has placed itself on record as offering the Dominion Government authorities full co-operation in meeting the requirements of the defence preparedness programme, at the same time asking full opportunity to make representations in regard to any controls which may be imposed and which would in any way affect the transit industry.

At the meeting of the executive committee of the Canadian Transit Association, in Toronto, on October 13, there was considerable discussion as to the place of transit in the defence preparedness programme undertaken by the Dominion authorities, and as to the necessity of the transit industry being assured of its manpower, materials and supplies requirements, in order to enable it to do its part in the vital work of supplying local transportation services. A resolution was adopted, providing for the formation of a wartime emergency committee, with W. H. Furlong, K.C., of Sandwich, Windsor and Amherstburg Ry. Co., as Chairman, assisted by Irving S. Fairty, K.C., General Counsel, Toronto Transportation Commission, and Honorary Counsel of the Association, to draft a resolution to be directed to the Dominion Minister of Trade and Commerce, Mr. Howe.

Such a resolution has been drafted, and copies transmitted to the Prime Minister of Canada, Mr. St. Laurent, and to Mr. Howe.

Text of Resolution

The resolution drafted on behalf of the Association is as follows:—

"Whereas, the evil forces of communism in seeking to enslave the free peoples of the earth, have presented a deadly challenge to the Canadian way of life which necessitates an all-out programme of preparedness for defense and adjustment in our national economy, and,

"Whereas, the local transit industry will inevitably have a vital place in that programme, as it did in World War II, and recognizes its responsibility to be prepared therefor,

"Now, therefore be it

"Resolved, that the Canadian Transit Association, acting through its Executive Committee and Officers, duly assembled at a meeting in Toronto on this 13th day of October, 1950, does hereby dedicate itself and its constituent members to the great task which lies ahead; that it proceed promptly to the formulation of adequate plans to meet the local and suburban transportation needs of the armed and civilian forces and the general public; that it co-operate to the fullest extent with the Dominion, Provincial and local Governments in the development of their plans for national and civil defense; and that it pledges all of its managerial and material resources to the attainment of the foregoing objectives; and be it

"Further Resolved, that whereas experience has demonstrated that in times of national emergency and consequent controls and restrictions, the national effort cannot function properly without adequate local passenger transportation, that the Right Honourable C. D. Howe, Minister of Trade and Commerce, be requested to grant to this Association the opportunity to make representations with regard to any controls which may be put into effect which would in any way affect the transit industry in Canada in order that this vital industry may have at all times during the period of preparing for defense, sufficient manpower, materials and other vital necessities to carry on the great task which inevitably lies ahead; and be it

"Further Resolved that copies of these resolutions be transmitted to the Right Honourable, the Prime Minister of Canada, and to the Right Honourable C. D. Howe, Minister of Trade and Commerce."

Canadian Transit Association

Honorary Advisory Council: Aubrey A. Burrows, President, Acton Burrows Co., Publishers, Canadian Transportation; W. H. Carter, President and General Manager, Winnipeg Electric Co.; W. R. Creighton, Chairman, Ottawa Transportation Commission; V. Cusson, Chairman, Montreal Tramways Commission; Dr. A. E. Grauer, President, British Columbia Electric Ry. Co.; R. G. Ivey, President, The London Street Ry. Co.; Wm. C. McBrien, Chairman, Toronto Transportation Commission; J. N. Sicard, Vice-President and General Manager, Quebec Ry., Light and Power Co.; G. Fraser Stewart, K.C., City Solicitor, City of Regina.

President: J. R. Empringham, Superintendent, Niagara, St. Catharines and Toronto Ry.

Vice-President: P. A. S. Todd, General Manager, The Hamilton Street Ry. Co.

Treasurer: Leonard Tait, Secretary-Treasurer, The London Street Ry. Co.

Honorary Counsel: I. S. Fairty, K.C., General Counsel, Toronto Transportation Commission.

Executive Committee: The President, the Vice-President, the Treasurer, the Immediate Past President (W. H. Furlong, K.C., Chairman and General Manager, Sandwich, Windsor and Amherstburg Ry. Co.), the Honorary Counsel, and E. W. Arnott, Vice-President, Vancouver Island Operations, British Columbia Electric Ry. Co.; M. T. Bancroft, Vice-President and Comptroller, Quebec Ry., Light and Power Co.; D. E. Blair, Consulting Engineer, Montreal Tramways Co.; R. B. Chandler, Manager, Port Arthur Public Utilities Commission; H. J. Curtis, Vice President and General Manager, Provincial Transport Co.; C. H. Dahl, Manager of Transportation, Winnipeg Electric Co.; A. Duperron, General Manager, Montreal Tramways Co.; T. Ferrier, Superintendent, Edmonton Transit System; D. N. Gill, General Manager, Ottawa Transportation Commission; P. G. McAra, Superintendent, Regina Municipal Ry.; H. C. Patten, General Manager, Toronto Transportation Commission; S. E. Preston, General Manager, Kitchener Public Utilities Commission; Sigurdur Sigmundson, Transportation Operations Manager, British Columbia Electric Ry. Co.; N. T. Smith, Manager, Nova Scotia Light and Power Co.; H. W. Tate, M.B.E., Assistant General Manager, Toronto Transportation Commission; R. N. Watt, President and Managing Director, Montreal Tramways Co.

Secretary: H. E. King, Director of Personnel, Toronto Transportation Commission, 35 Yonge St., Toronto.

Official Organ: Canadian Transportation, 345 Adelaide St. West, Toronto.

Toronto Subway Progress

On the various contracts in connection with the construction of the rapid transit subway in Toronto, progress to November 20 was as follows.

Contract S1.—Top lift excavation was in progress on Front Street, where the structure begins to run under the buildings at Yonge Street and Front Street. In this connection, electric railway traffic was diverted from Yonge Street during the period November 6-11. Bottom lift excavation was completed for about 800 ft. from just east of the Royal York Hotel to near the Yonge-Front intersection. Bottom lift excavation on Yonge Street had been carried to a point between King Street and Adelaide Street. About 565 ft. of invert slab was in place below Front Street and over 800 ft. below Yonge Street. To November 20, concrete was in place on this contract as follows:—Invert slab, 41%; walls, 23%; roof, 80%; capping (protection cover over roof), 3%.

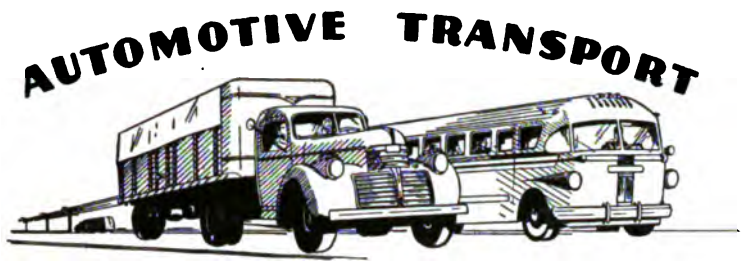
Contract S2.—Soldier piles had been driven on both sides of Yonge Street to within 10 ft. of the north limit of this contract. Temporary timber decking had been placed north to Gerrard Street and was continuing north. Top lift excavation had been advanced to the north side of Granby Street and bottom lift excavation was continuing in the Queen station area. Concrete work completed to November 20 on this contract was as follows:—Invert slab, 28%; walls, 28%; roof, 19%.

Contract S2A.—Pile driving operations on this contract began November 1.

Contract S3.—Bottom lift excavation to sub-grade had been advanced 60 ft. north of the south end of the contract toward Maitland Street. Intermediate lift excavation between Dundonald and Gloucester streets had been completed to a point 30 ft. north of Dundonald Street. Work was continuing on the sewers on Wellesley Street, Gloucester and Yonge streets.

Contract S4.—Top lift excavation of the open cut had been made to a depth of 10 ft. between Rosehill and Jackes Avenue, and initial excavation of the cut north of Crescent Road was in progress.

Contract S5.—Pile driving was continuing north of Heath Street, and top lift excavation north of Heath Street was in progress.



Dominion Motor Coach Association Meeting

The 1950 annual meeting of the Dominion motor coach body, in Ottawa, was well attended, and much business was transacted. Ivor W. Neil, of B.C. Motor Transportation, Ltd., was elected President for next year.

The 1950 annual general meeting of the Dominion Motor Coach Association was held at the Chateau Laurier, Ottawa, November 2 and 3, in accordance with the plans outlined in our November issue, pg. 630. H. J. Curtis, Vice President and General Manager, Provincial Transport Co., Montreal, the 1950 President of the Association, presided. An address of welcome to Ottawa was given by Mayor E. A. Bourque of that city. In addition to representatives of Canadian motor coach companies, representatives of U.S. carriers and of governmental departments were present. Prior to the general meeting, the radio committee of the Association discussed the possibility of employing radio communication on intercity coaches. The committee members were reappointed to carry on their work, to watch present experiments, to maintain contact with the Department of Transport regarding the allocation of frequencies, and to determine whether the use of radio on motor coaches would be practicable.



Ivor W. Neil,
Vice President and General Manager, Pacific Stage Lines, and General Manager, B.C. Motor Transportation, Ltd., and President, Dominion Motor Coach Association.

At the meeting, Mr. Curtis, in his presidential address, reviewed the activities of the Association during the year, and spoke particularly of the good job done by the motor coach operators in providing passenger transportation during the period of the strike of the railway non-operating employees. He said that the motor coach industry is in better shape to cope with a national emergency than it was at the outbreak of the second world war, and urged members to support unanimously a resolution pledging full support of the government in any emergency which may arise. In regard to regulation, he expressed the opposition of the motor coach industry to federal control, pointing out that about 90% of the motor coach passengers are local people, whose interest can best be served by provincial regulation.

There was discussion in regard to the Mackenzie Coach Lines case, which has been referred to the Supreme Court of Canada and which involves the question of dominion or provincial jurisdiction over motor coach lines conducting international and/or interprovincial operations. Mackenzie Coach Lines, operating between Boston, Mass., and New Glasgow, N.S., was licensed by the New Brunswick authorities to operate through New Brunswick, provided that it would refrain from doing a local business within the province, but, once it had obtained the license, the company was reported to have begun picking up and setting down passengers within New Brunswick. Action against it was therefore taken in a New Brunswick court by SMT (Eastern), Ltd., and Mackenzie Coach Lines offered the defence that because international and interprovincial bus operations are under Federal jurisdiction, and as the Federal authorities had imposed no obstacles, its action within New Brunswick was legal. The New Brunswick court ruled against Mackenzie Coach Lines, however, holding that the matter of highway traffic within New Brunswick is under provincial jurisdiction. Mackenzie Coach Lines thereupon appealed to the Supreme Court of Canada.

Other matters discussed were unredeemed ticket accounts, daylight saving time, statutory holidays, assessment for membership, and revaluation of the Canadian dollar and settlement of accounts with U.S. carriers.

Officers for Ensuing Year.—Victor Drury, President, Provincial Transport Co., and President, Canadian Car and Foundry Co., Ltd., was elected Honorary President of the Association, and Fred C. Manning, of Acadian Lines, was elected Honorary Vice President. I. W. Neil, General Manager, B. C. Motor Transportation, Ltd., Vancouver, was elected President, and vice presidents with regional jurisdiction were elected as follows:—Nova Scotia, G. C. Thompson, General Manager, Acadian Lines, Halifax; New Brunswick and Prince Edward Island, G. Carl Bird, Manager, SMT (Eastern), Ltd., Saint John; Quebec, Roch Tremblay, Vice President and Secretary, and R. G. Perry, General Traffic Manager, Provincial Transport Co.; Ontario, A. H. Foster, Vice President, Gray Coach Lines, Ltd., C. J. Gravelle, General Manager, the Canada Coach Lines, Ltd., and C. P. McTague, K.C., President, Eastern Canadian Greyhound Lines, Ltd.; Prairie Provinces, R. L. Borden, Assistant to President, Western Canadian Greyhound Lines, Ltd.; British Columbia, Harold Husband, President, Vancouver Island



R. J. Musgrove,
Secretary-Treasurer, Dominion Motor Coach Association. Mr. Musgrove is also Secretary-Treasurer of the Ontario Association of Motor Coach Operators.

Coach Lines, Ltd. R. J. Musgrove, of Gray Coach Lines, Ltd., Toronto, is Secretary-Treasurer of the Association.

The New President.—Ivor W. Neil, the new President of the Association, succeeding Mr. Curtis, is Vice President and General Manager, Pacific Stage Lines, and General Manager, B.C. Motor Transportation, Ltd., companies associated with British Columbia Electric Ry. Co. In addition to heading the Dominion Motor Coach Association, Mr. Neil is a director of the National Association of Motor Bus Operators, and of the Vancouver Tourist Association and Automotive Association, Vancouver Board of Trade, and Gray Line Sight-seeing Tours. He entered the transportation business more than 33 years ago, as an operator of a taxi and sight-seeing service in Vancouver which later developed into Pacific Stage Lines.

National Trucking Body's Annual Meeting

Much important business was dealt with at the recent annual meeting of the Canadian Automotive Transportation Association, the national organization of the trucking industry in Canada. The Association has plans for a substantial expansion of its programme.

The annual meeting of the Canadian Automotive Transportation Association was held in Toronto, October 27, 28 and 29, with the largest representation in the history of the trucking industry in Canada to date. The meeting was under the chairmanship of Arthur Muir of Vancouver, the 1950 President of the Association, and was followed by a meeting of the directors on October 30. The members of the Association are the provincial trucking bodies of Ontario, Quebec, Manitoba, Saskatchewan, Alberta and British Columbia, and the Association is also representative of the recently-formed Maritime Motor Transport Association, the formation of which was described in our issue of August last, beginning on pg. 451. The provincial member bodies are the Automotive Transport Association of Ontario, the Automotive Transport Association of Quebec, The Manitoba Automotive Transportation Association, the Saskatchewan Motor Transport Association, the Alberta Motor Transport Association and the Automotive Transport Association of British Columbia.

The delegates attending the annual meeting were:—From the Maritimes, E. Lyle Wallace, Moncton, N.B.; from Quebec, Camille Archambault, Montreal; from Ontario, Harry Adams, Chatham; W. H. Male, Toronto; G. M. Parke, Toronto; from Manitoba, R. R. Ramsay, Winnipeg; John Veitch, Selkirk; M. M. Wocks, Winnipeg; from Saskatchewan, J. W. McCaig, Moose Jaw; Angus Mitchell, Regina; from Alberta, James McGregor, Edmonton; Cleve Plotke, Calgary; Jack Taylor, Calgary; from British Columbia, G. L. Buckman, Vancouver; Aubrey Gross, Vancouver; Gordon Palmer, Vancouver.

Trucking Industry and National Defence.—Speaking at the opening session of the meeting, Mr. Buckman, who is Secretary-Manager of the Automotive Transport Association of British Columbia, said that the truck operators must stress the importance of civil defence in their future planning, and that the Canadian trucking industry must begin immediately to plan its role in the civil defence programme. He stated that the Battle of Britain was not won by the gallant few of the R.A.F., but by an adequate civil defence organization. Pointing out that trucks will be a vital key in any civil defence organization and that truckers must be prepared to do their full share in co-operation with public officials, he recorded that the British Columbia Association has already set up a disaster transport services committee, which has prepared a plan approved by the Canadian Red Cross Society.

(The Automotive Transport Association of Ontario has started similar work in co-operation with the Red Cross. At a press conference later in the meeting, John Magee, Executive Secretary and Director of Public Relations of the Canadian Automotive Transportation Association, said that the national association agrees with Mr. Buckman, and its officers hope that all provincial trucking associations will soon have disaster transport services committees functioning. He stated that trucking associations should go after the disaster agencies with co-operative plans, and not wait for these agencies to come to them)

National Steel Committee.—A national Steel Committee has been appointed by the Canadian Automotive Transportation Association to study how the steel situation is likely to affect the future manufacture of trucks, trailers and replacement parts. The committee is empowered to make representations to the Federal Government if this is considered necessary to protect the manufacture of vehicles, rolling stock and replacement parts for Canada's 'for hire' trucking industry.

H. E. Adams, of Chatham, is chairman of the committee. Other members are Gordon Palmer of Vancouver, Camille Archambault of Montreal, and W. H. Male and J. O. Goodman of Toronto.

"We cannot take a chance that we are not moving into a war economy," Mr. Adams warned the trucking industry. "Truck operators know that they were responsible for the movement of a tremendous volume of essential freight during World War II —and that includes the freight we moved to and from plants established and operated by the government. But do the people of Canada and those in authority recall these facts? Do they realize that in any emergency a breakdown of truck transportation—through lack of vehicles, rolling stock and replacement parts—would be disastrous to Canada?"

Mr. Adams warned against any tendency within the industry to



Delegates to the Annual Meeting of Canadian Automotive Transportation Association, Held in Toronto, October 27, 28 and 29

From left to right, seated, appear M. M. Wocks, Winnipeg; Camille Archambault, Montreal; James McGregor, Edmonton; Gordon Palmer, Vancouver; Arthur Muir, Vancouver (seated center); Harry Adams, Chatham, Ont.; Jack Taylor, Calgary; Angus Mitchell, Regina; Jack McCaig, Moose Jaw. Standing, left to right appear J. O. Goodman, Toronto; John Magee, Toronto; Aubrey Gross, Vancouver; Cleve Plotke, Calgary; R. R. Ramsay, Winnipeg; John Veitch, Selkirk, Man.; W. H. Male, Toronto; G. M. Parke, Toronto; E. Lyle Wallace, Moncton, N.B.

ırug off the difficulties of suppliers ecause trucking companies are ısers" of finished goods rather than s "producers" of materials. He said:— The trucking industry could suffer evere disruption of its operations unss our suppliers are able to make ood their claims on government gencies for the basic materials they ıust have to produce essential freight ansportation equipment."

Further Expansion of Activities.— he Association plans further expanion of services and public relations ctivities on behalf of the trucking ıdustry in 1951. For the second successive year, the Association will raise ıe affiliation dues of provincial truckng associations to achieve these obectives. The decision to expand the ıssociation's programme was sparked ıy two brief and eloquent addresses ıt the meeting. One was given by Mr. Male, who is the Association Secreary-Treasurer, and the other by Mr. Parke, who is the President of the Automotive Transport Association of Ontario, and who warned that the Dominion Association's staff, headed ıy Mr. Magee, has been strained and will have to be expanded. Most of the provincial associations will double or nearly double their affiliation dues to the Dominion body in 1951.

National Publicity Campaign.—Decision was arrived at, at the meeting, to raise a national publicity campaign fund, to finance a nation-wide consumer educational programme on behalf of the trucking industry. The decision to raise the fund followed a report to the meeting by Mr. Magee, in which he warned that a vast section of the public remains ignorant of the vital importance of highway transport to the personal lives of every citizen of Canada. He displayed a chart based on public information surveys made for the Association's department of public relations in March, 1949, and October, 1950. Basing his remarks on the findings of the surveys, he said that there is no ground for complacency about the public's knowledge as it now stands, regarding the trucking industry, adding:—"We are not secure from the threat of railway inspired restrictive legislation until the public knows so much about the trucking industry that no government would dare raise its hand against us."—The fund objective is $30,000, a sum which Mr. Magee described in a press conference as modest, compared with the $350,000 which the farmers have recently raised for a similar fund.

Highway Courtesy Campaign.—At a press conference during the meeting, Mr. Muir said that the provincial trucking associations are being asked to join a nation-wide highway courtesy campaign. He said that the Dominion Association had decided unanimously to seek the co-operation of the provincial bodies in a plan for having highway truck drivers extend all possible aid to distressed motorists. The idea for the national courtesy campaign sprang from a report on trucking activities in Manitoba by Mr. Veitch, who is President of the Manitoba Automotive Transportation Association, and who told the meeting that in his province truck drivers who stop to help a motorist in distress received a bonus from the Association and from his employers. Mr. Muir said that the courtesy service is to include minor repairs to stalled cars, changing flat tires (particularly for women and elderly drivers) and offers to notify a towing service of the motorist's plight. Mr. Muir said that trucking companies always encourage their drivers to display courtesy and co-operation to other motorists on the highways, and added:—"This new plan, if adopted by all truckers across the country, will be an extension of that principle".

Plans for 1951.—Evidently, a very active programme for 1951 is contemplated by the Association. Its public relations work is to continue, and a large scale publicity campaign is to be launched late in the year. Also, toward the end of the year, the Association's staff is to be expanded. Full co-operation will be extended to the Federal Co-ordinator of Civil Defence, Major-General F. F. Worthington. It is intended to invite the provincial registrars of motor vehicles to a conference on reciprocal license fees. The 5,500 trucking firms embraced in the provincial organizations will be invited to participate in the national highway courtesy programme. The committee on steel requirements will function actively to ensure that no breakdown of highway freight transport occurs through lack of steel for replacement parts. A national committee of truck operators and association officials will study the question of joint rail-truck bill of lading. A national claims prevention programme is to be instituted, involving co-operation between shippers and carriers to reduce loss and damage of freight. This claims prevention programme originated in a report prepared in 1949 by the Association's department of public relations, which pointed to the drain on revenue and the strain on carrier-shipper relations caused by loss and damage of freight.

At the meeting, major policy decisions were arrived at or reiterated. The Association is unalterably opposed to Federal control of trucking in any form whatever, this opposiiton including any attempted Federal control of international and interprovincial trucking. The Association favors removal of the Dominion Government ban on in-bond trucking, particularly in view of the fact that the in-bond transportation privilege is accorded rail, water and air transport. The constitution of the Association was amended unanimously to prevent any provincial trucking association from sending, as a delegate to national association meetings, any employee of a trucking company owned or controlled by a railway or other competitive form of transportation. In future, the annual meetings of the Association are not to be held at the same time as provincial trucking association conventions.

Maritime Body Admitted to Federation. — The newly-formed Maritime trucking association was admitted to the CATA Federation. Coast-to-coast trucking in Canada came closer to reality when the Maritime Motor Transport Association entered the Dominion alliance of highway transport carriers. The Maritime association was welcomed into the national trucking federation by the CATA retiring President, Mr. Muir.

Among the problems of direct interest to the Maritimes discussed at the annual meeting was the question of federal control of international and interprovincial highway traffic. The issue is expected to go to the Supreme Court of Canada for settlement as a result of a court case originating in New Brunswick.

The Supreme Court is expected to rule on whether the Mackenzie Coach Lines, operating between Halifax and Boston, may pick up local passenger traffic in the province. The company contends its operations are under federal jurisdiction, and it is therefore not bound to observe provincial regulations concerning local traffic. The attornies-general of most other provinces contend it is a provincial matter.

Officers and Directors.—Mr. Veitch was elected President of the Dominion Association for 1951, succeeding Mr. Muir, who becomes a honorary director. Mr. Veitch is President, Veitch Truck Lines, which operates between Selkirk and Winnipeg. Mr. Taylor was elected First Vice President. He is Secretary of the Alberta Motor Transport Association. Mr. Archambault, who is Executive Secretary of the Automotive Transport Association of Quebec and President of Rapid Transit Terminals, Montreal, was elected Second Vice President. Mr. Male was re-elected Secretary-Treasurer. He is a director of the Automotive Transport Association of Ontario, and Vice President, Transportation, Terminal Warehouses, Ltd., Toronto. Mr. Magee continues as the Association's Executive Secretary and Director of Public Relations.

The C.A.T.A. directorate for 1951 includes Messrs. Veitch, Taylor, Archambault and Male, representing Manitoba, Alberta, Quebec and Ontario, with J. W. McCaig, Moose Jaw, representing Saskatchewan; Aubrey Gross, Vancouver, representing British Columbia, and E. Lyle Wallace, Moncton, N.B., representing the Maritime Provinces exclusive of Newfoundland.

Mr. McCaig is President of the Saskatchewan Motor Transport Association and manages Maccam Transport of Moose Jaw.

Mr. Gross is Vice President of the

Automotive Transport Association of B.C. and manages Transcontinental Storage and Distributing Co., Ltd., of Vancouver.

Mr. Wallace is President of the Maritime Motor Transport Association and manages Wallace Storage and Cartage of Moncton.

Members of the C.A.T.A. Finance and Management Committee for 1951 are Messrs. W. H. Male, C. M. Parke and Rodger Leslie, all of Toronto.

Mr. Parke is President of the Automotive Transport Association of Ontario and General Manager of Consolidated Truck Lines, Toronto.

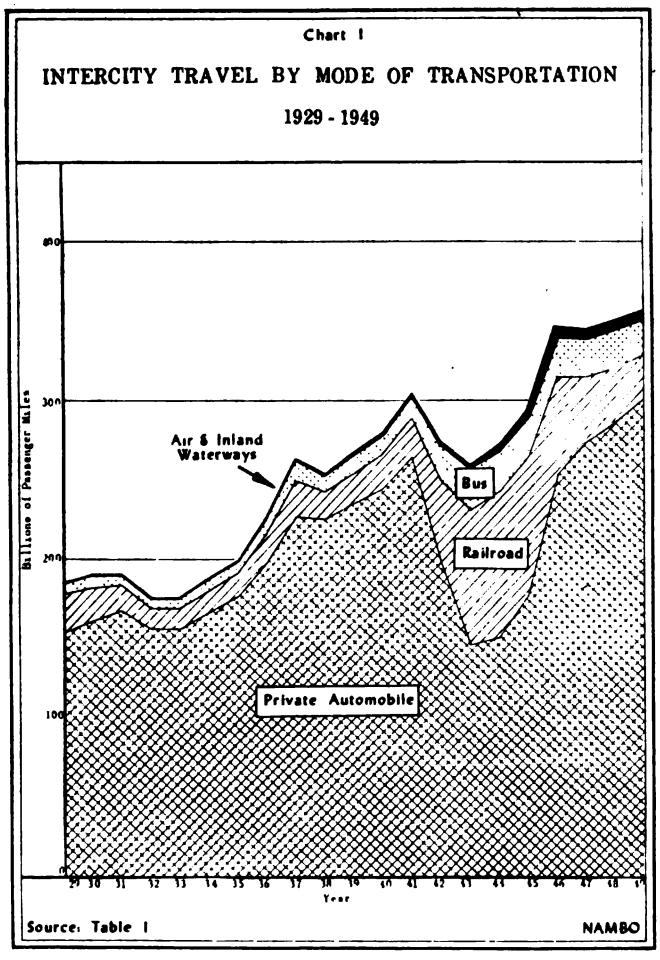
Mr. Leslie is a Director of the Automotive Transport Association of Ontario and Vice President and General Manager of Canada Cartage System, Ltd., Toronto.

Review of Bus Operation in United States

The National Association of Motor Bus Operators, in the nineteenth edition of its "Bus Facts", presents a great deal of information in regard to the U.S. bus industry, much of which is presented in the following.

(The National Association of Motor Bus Operators has served for nearly a quarter of a century as the trade association for the motor bus industry. Its principal function, like that of all such organizations, is to contribute in every way possible to the welfare of the industry which it represents; among these contributions is that of bringing to the general public a better understanding of the industry and its problems.

In addition to its function as industry spokesman, the Association undertakes, in a wide variety of ways, to assist those active in the highway passenger transportation field. Through research and active co-operation with all the important private and governmental organizations concerned, the Association provides assistance in connection with technical operating problems, safety, labor relations, legislation, regulation, public relations and many other phases of the activities of its membership. These services are made available through bulletin series covering most of these fields, as well as through the medium of conferences, meetings, and individual consultation.)



Within the span of a single generation, America has become a nation of highway travelers. Prior to World War I, the railways were by far the most important means of travel between cities and towns, and they supplied a total of a little more than 30 billion passenger miles of transportation in 1915. While some 2⅓ million passenger automobiles were registered in 1915, their use was principally for short trips. By 1919, however, almost 7 million passenger automobiles were in use, and it is estimated that they supplied more than 50 billion passenger miles of intercity travel—a slightly larger volume than was supplied by the railways.

Ten years later, in the boom year of 1929, travel by private automobile had trebled, while rail passenger miles had declined to about 24 billion. At the same time, the young but rapidly developing intercity bus industry provided nearly 7 billion passenger miles of intercity transportation, thus bringing the pleasure and benefits of highway travel to thousands to whom private cars were not available.

The dramatic story of the growth of highway travel over the past two decades is told in charts 1 and 2. That America is a nation of travelers is apparent from the 360 billion passenger miles recorded for 1949. Even more striking is the fact that nearly nine tenths of those miles were traveled by highway—84% private automobile and almost 6% by intercity bus.

The tremendous pressure put upon public carriers during World War II is also apparent from these charts. The scarcity of automobiles, tires, and fuel reduced the proportion of all intercity travel performed by private automobile to a low of little more than half in 1943 and 1944, but it is now approaching its prewar level.

Buses accounted for more than 10% of all intercity passenger miles traveled in 1943, much of which was essential war travel. In terms of total travel by public carrier, the role of the intercity bus has been a steadily increasing one. In 1949, more than a third of all intercity travel (passenger miles) by public carrier was by bus. The average bus trip is considerably shorter than the typical rail journey, however, and buses carried nearly 80% more intercity passengers in 1949 than did the railways (commuters excluded).

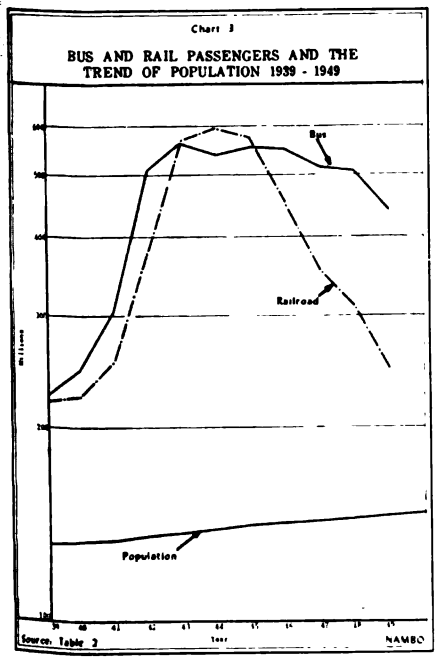
It is estimated that the job of transporting a half billion intercity bus passengers annually is accomplished by the efforts of some 2,700

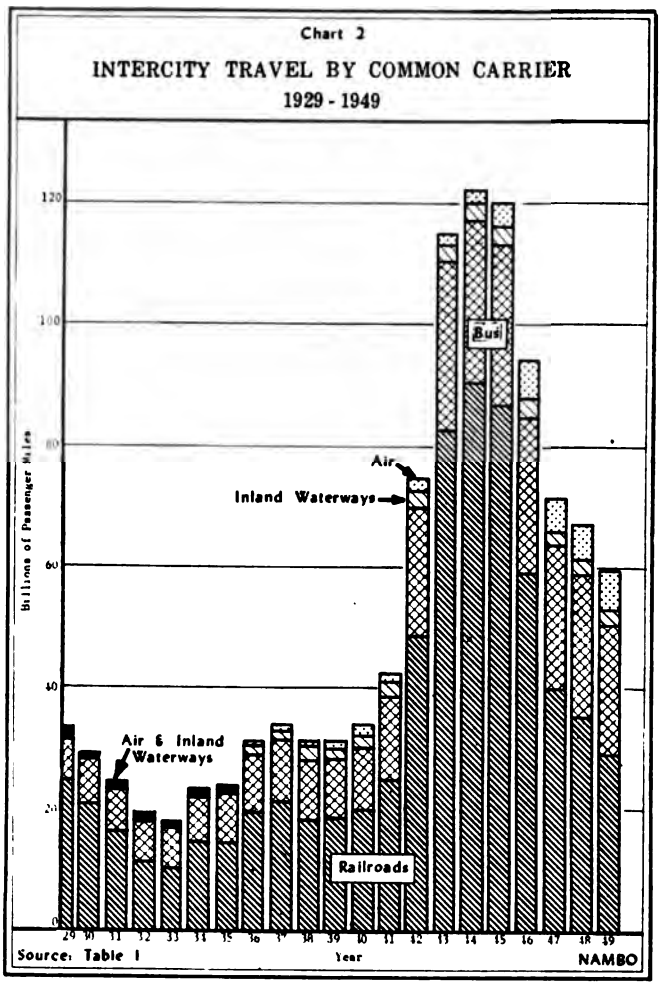
enterprises, ranging all the way from the one-vehicle route to the large systems serving hundreds of communities. It is also estimated that, in 1948, the 26,000 buses making up the equipment of the large systems were driven a total of nearly 1½ billion miles; reference here is only to the buses operating as public carriers, and the figures do not include the buses used exclusively in school service, numbering between 90,000 and 100,000.

Some 1,200 of the carriers making up the intercity bus industry are subject to the jurisdiction of the Interstate Commerce Commission, either because they operate across state lines or because they participate, through transfer arrangements, in interstate traffic. Of these 1,200 carriers, only a small proportion have been required to provide the Commission with detailed information of their operations in most of the period since the Motor Carrier Act became effective in 1935. To the end of 1949, carriers with annual revenue of $100,000 or more were designated as the Class 1 group; there were some 280 of these, and the Commission reports that they accounted for about 91% of intercity bus revenue in 1948. Beginning with this year, Class 1 carriers are defined as those with annual revenue of $200,000 or more, and this eliminates about a third of the carriers formerly included in Class 1.

Intercity Passenger Miles by Mode of Transportation

The Association presents a table, designated table 1, (not reproduced herewith) showing, for each year from 1929 to 1949 inclusive, daily intercity passenger mileage in the United States, together with passenger mileage in private automobiles and in the equipment of the public carriers of various types. In 1929, the total intercity travel is recorded as 186.6 billion passenger miles, and 154.3 billion of this was handled by private automobiles and 32.3 billion by public carriers, viz., 24.2 billion by railways, 6.8 billion by intercity buses and 1.3 billion by waterways.





In 1949, the total intercity travel was estimated as 360.8 billion passenger miles, of which 301.5 billion was provided by private automobiles and 59.3 billion by public carriers, viz., 29.4 billion by railways, 21.3 billion by intercity buses, 6.8 billion by airplanes and 1.8 billion by waterways. On a percentage basis, in 1929, 82.7% of the total intercity travel was by private automobiles and 17.3% by public carriers, viz., 13% by railways, 3.6% by intercity buses and 0.7% by waterways. In 1949, 83.6% of the total intercity travel was by private automobiles and 16.4% by public carriers, viz., 8.1% by railways, 5.9% by intercity buses, 1.9% by airlines and 0.5% by waterways.

As concerns the percentage distribution of intercity travel by public carrier, in 1929, the railways handled 74.9% of the total public carrier passenger mileage, while the buses handled 21.1% and the waterways, 4%. In 1949, the railways handled 49.6% of the total public carrier intercity passenger mileage, the intercity buses, 35.9%, the airlines, 11.5%, and the waterways, 3%.

The Association presents, in its table 2, (reproduced herewith) figures to show that in 1939, when the United States population was 130,879,718, 225,302,464 intercity passengers were carried by bus and 219,896,800 by railway. In 1949, when the population was 149,947,000, there were 438,400,000 intercity passengers carried by bus and 245,800,000 by railway.

The accompanying chart 1 is based on the figures in table 1, and shows, for the years 1929-1949 inclusive, the intercity travel by mode of transportation in the U.S., in terms of billions of passenger miles. The large decrease in the private automobile intercity travel in the war years was, of course,

Passengers Carried by Bus and Railway, and U.S. Population, 1939-1949

Year	Intercity Passengers		United States
	Bus	Railway	Population
1939	225,302,464	219,896,800	130,879,718
1940	246,570,730	224,625,828	131,970,224
1941	305,555,550	254,125,890	133,202,873
1942	505,587,990	383,313,903	134,664,924
1943	561,492,884	571,344,371	136,497,049
1944	534,049,540	595,410,147	138,083,449
1945	556,725,788	571,225,032	139,585,518
1946	549,382,912	452,063,849	140,840,000
1947	512,174,718	360,941,072	142,186,000
1948	507,400,000	311,544,277	143,329,000
1949	438,400,000	245,800,000	149,947,000

due to scarcity of vehicles, tires and gasoline.

The accompanying chart 2, also based on the figures in table 1, referred to in the foregoing, provides particulars of intercity travel by common carrier in the years 1929-1949 inclusive. It is seen that railway travel increased substantially from the beginning of 1942 up to near the end of 1945, since when the travel by railways has decreased considerably.

The figures in the Association's Table 2 are reproduced herewith, under the heading "Passengers Carried by Bus and Railway, and U.S. Population, 1939-1949", and the accompanying chart 3 is based on the figures in this table.

In regard to the growth of the industry, the Association states:—

"The story of the phenomenal growth of the bus industry is in large part one to be told in terms of the unflagging enterprise and hard work of the industry's pioneers who had the foresight to make use of an inherently flexible vehicle in meeting the transportation needs of a rapidly expanding population. As new centers spring up service can be offered promptly when the demand warrants. Prompt adjustment of bus service to shifts in the concentrations of population and industry are possible. These adjustments are not limited to shifts in bus schedules, for many bus routes have been established as substitutes for less flexible and more expensive rail lines. This process of expansion and adjustment has created the intercity bus industry which has now become an indispensible segment of our national transportation system.

The records of the Interstate Commerce Commission show that there were 165 Class 1 intercity carriers of passengers in 1939, the first year for which comprehensive data are available. Of this total, 149 were engaged almost exclusively in the transportation of passengers while the remaining 16 also operated trucks. Using about 7,300 buses, the employees of these carriers, some 23 thousand in number, transported about 138 million patrons to their destinations by highway.

"A decade later, there were reported 280 Class 1 carriers with about 47,000 employees. The 16,500 buses owned by these companies were larger, more comfortable, and far better designed than those of 1939. The intercity passengers carried by these companies totaled almost 400 million, and if we include the intercity passengers carried by some 9 carriers classified as 'local or suburban', the annual passenger count for intercity buses is nearly 440 million, or almost 3 times the total population of the country. Thus, in the few short years of its history, this system is now equipped to give to every man, woman and child in the United States nearly 3 rides each year over scenic highway routes which would not be available to many of them otherwise."

Characteristics of the Average Intercity Bus Trip

Year	Length (Miles)	Revenue per Passenger Mile Cents	Revenue per Passenger Mile Index	Cost to Passengers Total	Cost to Passengers Fares	Cost to Passengers Federal Transportation Tax	Cost of Living Index (1939=100)
1939	77.4	1.55	100.0	$1.20	$1.20	...	100.0
1940	75.3	1.46	94.2	1.10	1.10	...	100.8
1941	71.0	1.46	94.2	1.09	1.04	0.05	105.8
1942	48.9	1.65	106.5	0.89	0.81	0.08	117.2
1943	47.7	1.69	109.0	0.93	0.81	0.12	124.3
1944	48.4	1.65	106.5	0.92	0.80	0.12	126.3
1945	48.4	1.64	105.8	0.91	0.79	0.12	129.2
1946	48.2	1.66	107.1	0.92	0.80	0.12	140.1
1947	47.1	1.70	109.7	0.92	0.80	0.12	160.2
1948	47.2	1.80	116.1	0.98	0.85	0.13	172.2
1949	48.4	1.90	122.6	1.06	0.92	0.14	170.1

Interstate Class 1 Carriers—Employees, Equipment and Traffic

In 1939, there were 165 intercity Class 1 motor bus carriers in the U.S., of which 149 carried passengers exclusively, and 16 passengers and property. By 1949, the number had increased to 280, of which 250 carried passengers exclusively and 30 carried passengers and property. The number of employees of the Class 1 intercity companies increased from 22,659 in 1939 to 47,200 in 1949, while the number of buses owned increased from 7,263 to 16,500. The total number of passengers carried increased from 137,823,287 in 1939 to 397,900,000 in 1949.

Indexes of Revenues in Cents Per Bus Mile, Wholesale Price and Cost of Living—1939=100

Year	Index of Passenger Revenue Per Bus Mile	Average Bus Load (Persons)	Wholesale Prices	Cost of Living
1939	100.0	16.4	100.0	100.0
1940	99.1	17.2	101.9	100.8
1941	112.7	18.7	113.2	105.8
1942	155.5	21.3	128.1	117.2
1943	179.9	24.3	133.7	124.3
1944	179.5	24.9	134.9	126.3
1945	175.1	24.5	137.2	129.2
1946	156.8	21.7	157.1	140.1
1947	147.6	20.0	197.3	160.2
1948	149.3	19.0	214.1	172.2
1949	148.9	18.0	201.0	170.1

Changes Between 1939 and 1949

Other tables presented by the National Association of Motor Bus Operators in its review, and given herewith, are those headed "Characteristics of the Average Intercity Bus Trip", "Indexes of Revenues in Cents Per Bus Mile, Wholesales Price and Cost of Living", and "Buses Operated by Passenger Carriers in Intercity Revenue Service." The figures in these tables provide much information in regard to conditions in the industry, and to the changes which have taken place between 1939 and 1949. The average bus journey decreased from 77.4 miles in 1939 to 48.4 miles in 1949, and although the cost of living increased by 70.1% during the period, the bus revenue per passenger mile increased by only 22.6%. The average cost to the passenger for the typical journey decreased from $1.20 in 1939 to $1.06 in 1949, the total cost of $1.06 having provided for an actual fare of 92c and the Federal transportation tax of 14c.

While wholesale prices in the United States increased by 101% during the 1939-1949 period, with the cost of living up by 70.1%, the average number of persons per bus in intercity service increased from 16.4 in 1939 to 18 in 1949, while the passenger revenue per bus mile increased by 48.9%, partly on account of the increase in the average passenger load and partly because of the 22.6% increase in the revenue per passenger mile. The buses operated by passenger carriers in intercity service increased from 6,831 in 1939 to 12,915 in 1949.

Under the heading of "Services Performed by the Industry", the Association states:—"In addition to its convenience, bus travel has the further advantage of economy. The average bus trip still carries a per mile fare under two cents, and shows a rise of less than 10% between 1939 and 1947. By way of contrast, other items in the family budget, as reflected by the Department of Labor's Consumer Price Index, rose an average of more than 60% during the same period. It was possible to maintain these low rates in the face of sharply rising costs through the war period because of greatly increased traffic, but the anticipated postwar reduction in loads is already necessitating some fare in-

Buses Operated by Passenger Carriers in Intercity Revenue Service

Year	Total	Owned Equipment	Leased Equipment	Purchased Transportation Equipment
1939	6,831	N.A.	N.A.	N.A.
1940	6,711	6,352	350	N.A.
1941	7,905	7,120	434	351
1942	9,689	8,911	560	210
1943	11,327	10,017	993	317
1944	11,808	10,287	1,087	434
1945	12,281	10,871	983	427
1946	12,558	11,343	920	295
1947	12,915	11,761	889	265

N.A.—Not available.

SOURCE: 1939-1947 bus data—Interstate Commerce Commission, Statistics of Class I Motor Carriers; 1948 and 1949—Estimates by NAMBO, in part from preliminary (Q-750 reports of the Commission; price indexes—U.S. Bureau of Labor Statistics. Bus data pertain only to passenger carriers; carriers of both property and passengers are not included.

Operating Statements of Class I Intercity Motor Carriers of Passengers*

Items	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Number of carriers represented	149	135	132	136	157	194	231	254	253	250	250
Operating revenue	$113,458,778	$114,741,823	$148,876,398	$251,192,183	$344,007,293	$374,666,714	$377,933,053	$380,627,013	$367,424,468	$390,700,000	$365,600,000
Operation and maintenance expense	70,030,845	72,906,725	88,044,913	125,935,216	167,677,469	196,609,677	214,223,490	246,992,176	257,755,981	280,700,000	270,100,000
Direct labor expense	33,266,718	34,854,670	42,863,832	61,760,347	84,549,914	100,933,107	108,393,962	129,184,949	136,123,403	148,200,000	142,600,000
Non labor expense	36,764,127	38,052,055	46,081,080	64,174,869	83,127,555	95,676,570	105,829,528	117,807,227	121,632,578	132,500,000	127,500,000
Depreciation expense	9,741,814	10,385,435	12,809,440	14,987,958	16,085,833	16,186,087	17,268,041	17,617,838	19,757,231	26,100,000	29,600,000
Amortization chargeable to operations	34,069	43,839	43,058	65,267	63,580	68,302	68,185	101,689	95,680	100,000	100,000
Operating taxes and licenses	11,456,554	11,606,452	14,134,261	18,722,562	23,829,022	26,064,222	26,846,276	28,874,073	29,272,570	31,000,000	29,500,000
Operating rents—net	3,374,116	3,527,344	3,869,158	4,783,978	6,122,989	6,484,665	6,527,853	5,930,750	5,636,075	4,800,000	4,600,000
Total expense	94,637,398	98,474,785	119,920,829	164,464,981	213,778,973	245,403,153	264,933,815	299,216,526	312,517,537	342,700,000	333,900,000
Net operating revenue	18,821,380	16,267,097	28,955,569	86,727,202	130,228,320	129,263,561	112,999,238	81,410,487	54,906,931	48,000,000	31,700,000
Rent for lease of carrier property—debit	25,397	49,140	151,715	326,040	560,038	787,276	759,637	693,071	469,480	N.A.	N.A.
Income from lease of carrier property—credit	9,927	74,446	98,083	201,007	212,074	202,989	190,991	208,515	197,636	N.A.	N.A.
Net carrier operating income	18,805,910	16,292,403	28,901,937	86,602,169	129,880,356	128,699,274	112,439,592	80,925,931	54,635,087	N.A.	N.A.

*Operating revenues less all expenses arising from the transportation of intercity passengers yield net operating revenue. From this latter figure, plus income from non-operating activities, must be taken all financial expenses, losses, contributions, etc., as well as income taxes to arrive at net income. The data in this table relate to passenger carriers only.

SOURCE: 1939-1947—Interstate Commerce Commission, Statistics of Class I Motor Carriers; 1948-1949—estimated from preliminary reports (Q-750) of the Commission.

N.A.—Not available.

creases. That some rise in fares was unavoidable is obvious from the increase of more than 97% in the cost of materials and equipment as measured by the wholesal price index. Although final 1948 and 1949 fare data are not yet available, it is estimated that total increases are still less than one-third the rise in living costs generally.

"Prior to the last war, the trip of the average intercity bus passenger amounted to somewhat more than 70 miles. During the war, there was a tremendous increase in the industry's short-haul traffic—defense workers rode to and from their jobs and military personnel and their relatives used buses extensively for trips to and from camps and other military establishments. Most of this war traffic involved shorter trips than the typical peacetime journey, consequently the average trip was reduced to a figure below 50 miles. The revival of pleasure travel will presumably result in an eventual return to a somewhat longer average intercity trip.

"The increase since 1939 in the cost of bus travel per mile to the passenger has been considerably greater than the modest rise in the rate of fare per mile. This results from the imposition of the wartime 15% excise tax on passenger travel, a levy which is still in effect despite the fact that it is no longer justified by the special circumstances which gave rise to it.

"The service provided by all Class 1 intercity carriers required a total of more than 1.1 billion vehicle miles in 1949. Most of these bus miles were operated with equipment owned by the company providing the service; the proportion was about 94% in 1947, the last year for which complete detail is available.

"Those Class 1 carriers engaged almost exclusively in passenger transportation required a total of nearly 13,000 vehicles for the service provided in 1947, and the great majority were owned by the operating companies. Similar information is not available for those carriers engaged in the transportation of property as well as passengers, but this group of carriers owned less than 1,600 buses in 1947.

Seasonal Variations in Traffic

In its review, the Association presents figures to show that the demand for motor bus transportation is far from being constant throughout the year, and that considerable variation is evident from month to month. The pattern shows a considerable increase in the second quarter of the year, as compared with the first quarter, and a still further increase in the third quarter, with a decrease in the fourth quarter to a point just above the traffic of the first quarter. The revenue in the first quarter is only about one-fifth of the total annual revenue. No doubt the heavy traffic in the third quarter is due in great part to vacation travel. The Association points out that some carriers operating in the vacation areas of the northern U.S. actually show deficits for two or three quarters each year, and any annual net income earned must be realized during the third quarter. It is pointed out that these seasonal variations in the demand for bus transportation require constant changes in schedules, employment and amount of equipment available.

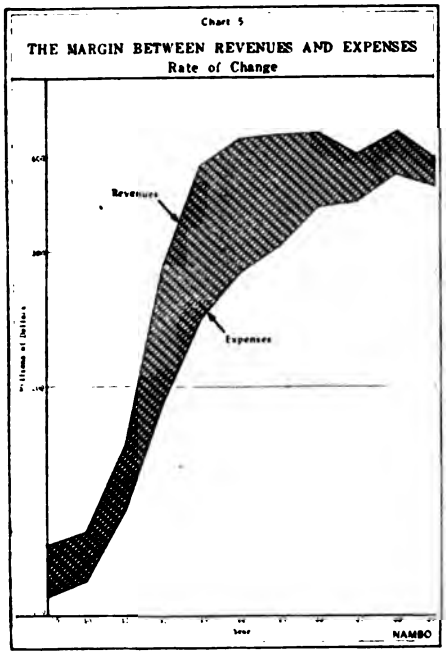
Bus Miles Operated

The Association's review presents very complete figures in regard to the bus miles operated by Class 1 motor carriers of passengers in the years 1939-1949 inclusive. In 1939, the total number of bus miles operated by all carriers was 520,423,340, and in 1949 this had increased to 1,115,600,000. The bus mileage operated by carriers handling passengers only increased from 466,259,600 in 1939 to 1,021,800,000 in 1949. The mileage in regular route intercity service increased from 452,287,865 in 1939 to 946,400,000 in 1949; the mileage in local service from 4,771,237 to 48,500,000; the mileage in charter service from 8,740,911 to 26,400,000, and the mileage in all other service from 459,587 to 500,000.

Results and Trends

Under the above heading, the Association states:—"Official reports to the Interstate Commerce Commission show an increase of more than 200% in the operating revenues of Class 1 intercity motor carriers of passengers since 1939, but important qualifications are necessary in interpreting these figures. First, the estimated revenues of $397 millions in 1949 are based on the operations of about 280 carriers, whereas only 165 carriers were reported in 1939. This is a result of the fact that war traffic, mergers and other changes have now brought the revenues of some 115 companies above the $100,000 mark, thus automatically making them Class 1 carriers. It is also important to note that, because official figures are available only from 1939 to date, we do not have any real picture of the financial characteristics of the industry during a period that could be called normal. Further, the bus industry, even today, is a relatively young and growing one.

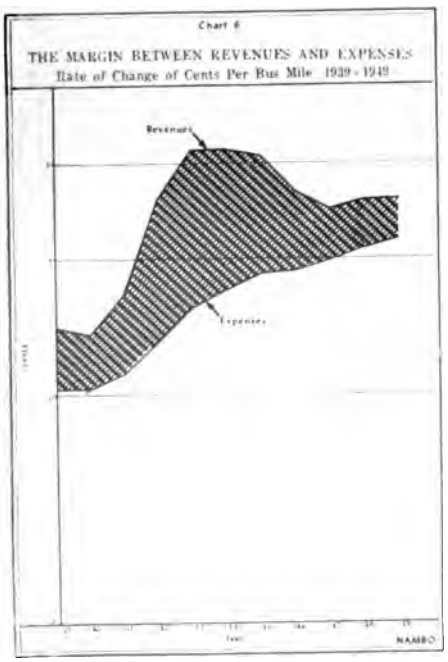
"The rapid rise in revenues beginning in 1942 is largely a reflection of war-swollen traffic coupled with the shortages of gasoline, tires and vehicles and the consequent restrictions on the use of private automobiles. The war peak was reached in 1945, but continued full employment and the lack of new automobiles maintained revenues during 1946. The decline in 1947 was partly the result of protracted strikes on several large properties. The following year (1948) shows a clear outline of the postwar trend—a steady decline in numbers of passengers, particularly commuters. The failure of 1948 revenues to show a decrease from the preceding year is explained by several factors among which are fewer days lost as a result



of work stoppages and scattered but fairly widespread increases in rates of fare.

"The trend of expenses has been almost steadily upward, both in terms of total outlays and on the basis of unit costs. Of outstanding importance in this connection is the fact that the bus industry's pay-rolls account for about 53 cents of every operation and maintenance expense dollar, and wages have more than doubled since 1939.

"One important index to the condition of the industry is its operating ratio, i.e., the relation of expenses to revenues. The effect of war traffic is also apparent here; the industry's operating ratio reached an annual low of 63.2 in 1943. This figure is explained principally by the fact that there was not enough equipment to supply the demand for transportation. Consequently it was necessary to reduce standards of service and to permit crowding that is not tolerated under normal conditions. The steady rise of expenses and the postwar decline in revenues is reflected in current ratios, which reached 87.5 for 1948 and an estimated 91.3 for 1949.



"The tightening of the squeeze between rising expenses and declining revenues is best seen in the two charts (5 and 6) which are presented herewith. The first of these shows the picture in terms of dollars, plotted in terms of rates of change; it illustrates strikingly, just as the operating ratios (chart 4, showing seasonal variation in travel, is not presented herewith) do, the fact that the margin for 1949 is less than it was a decade ago. The same trend is apparent in chart 6, which is based on revenues and expenses per vehicle mile. This chart also serves as a reminder that the reduction in unit costs resulting from increased production in the typical factory is not possible to any marked degree in bus operation."

The following is the record of the operating revenue of Class 1 interstate motor carriers of passengers in the U.S. in the years 1939-1949 inclusive.

Year	All Carriers/1	Passenger Carriers
1939	$123,020,460	$113,447,242
1940	126,838,220	114,741,882
1941	165,923,144	148,876,398
1942	284,855,070	251,192,183
1943	388,027,845	344,007,293
1944	420,582,538	374,666,714
1945	425,121,846	377,933,053
1946	425,635,219	380,627,013
1947	398,892,112	367,424,468
1948	424,100,000	390,700,000
1949	396,900,000	365,600,000

1/These figures include passenger revenues of carriers of both property and passengers, but the revenues of such carriers from the transportation of property are not included.

Following is the record of expenses for the 1939-1949 period.

Year	All Carriers/2	Passenger Carriers
1939	$106,487,633	$ 94,637,398
1940	111,661,260	98,474,785
1941	137,272,085	119,920,829
1942	189,894,271	164,464,981
1943	245,332,510	213,778,973
1944	279,873,570	245,403,153
1945	303,266,709	264,933,815
1946	340,772,159	299,216,526
1947	346,805,183	312,517,537
1948	372,000,000	342,700,000
1949	362,500,000	333,900,000

2/These figures include expenses chargeable to passenger operations of carriers of both property and passengers. Depreciation, taxes and licenses and operating rents, pertaining to the property service of such carriers are also included, as segregated data with respect to these items are not available.

Motor Vehicle Shipments

In September this year, according to advice from the Dominion Bureau of Statistics, Industry and Merchandising Division, Mining, Metallurgical and Chemical Section, there were factory shipments of 38,035 Canadian-made motor vehicles, compared with 24,272 units in August and with 30,894 units in September, 1949. The shipments were made up of 10,764 commercial vehicles, viz., 10,664 trucks (9,876 for domestic sale and 788 for export) and 100 coaches or buses (all for domestic sale), and 27,271 automobiles (24,541 for domestic sale and 2,730 for export). In addition, there were shipments in September of 245 motor vehicles imported from the United States, comprising 102 commercial vehicles (99 trucks and three coaches or buses) and 143 automobiles.

Following is the record of commercial motor vehicle shipments in September:—

Maximum Gross Vehicle Weight in pounds	Made-in-Canada Vehicles For Sale in Canada	For Export	Total	Vehicles Imported from U.S.
5,000 and less	5,366	457	5,823	32
5,001—10,000	2,280	151	2,431	28
10,001—14,000	630	48	678	.
14,001—16,000	1,145	132	1,277	.
16,001—19,500	234	...	234	2
19,500—26,000	109	...	109	20
Over 26,000	112	.	112	17
Total trucks	9,876	788	10,664	99
Total coaches or buses	100	...	100	3
Total commercial vehicles	9,976	788	10,764	102

Shipments in First Nine Months

In the first nine months of this year, factory shipments of Canadian-made motor vehicles totalled 294,203 units, compared with 216,867 and 185,022 for similar periods in 1949 and 1948. These were made up of 82,285 commercial vehicles, comprising 81,776 trucks (75,108 for domestic sale and 6,668 for export) and 509 coaches or buses (all for domestic sale), and 211,918 automobiles (194,909 for domestic sale and 17,009 for export). There were also shipments of 1,323 commercial vehicles (1,320 trucks and three coaches or buses) and 2,068 automobiles imported from the United States.

Following is the record of commercial motor vehicle shipments in the first nine months of this year:—

Maximum Gross Vehicle Weight in pounds	Made-in-Canada Vehicles For Sale in Canada	For Export	Total	Vehicles Imported from U.S.
5,000 and less	38,050	2,849	40,899	574*
5,001—10,000	17,179	942	18,121	385
10,001—14,000	5,629	1,548	7,177	1
14,001—16,000	10,639	1,324	11,963	12*
16,001—19,500	2,018	...	2,018	30
19,501—26,000	955	5	960	145
Over 26,000	638	...	638	173
Total trucks	75,108	6,668	81,776	1,320*
Total coaches or buses	509	...	509	3
Total commercial vehicles	75,617	6,668	82,285	1,323*

Preliminary figures on sales in Canada of British-made vehicles during the first nine months of 1950 record that they were 51,265 automobiles and 3,478 trucks and buses.

Canadian Car and Foundry Co. Deliveries

In the period October 15-November 15, Canadian Car and Foundry Co., Ltd., Automotive Division, delivered 10 model IC-41 intercity motor coaches, of 37-psgr. capacity, to Provincial Transport Co., Montreal. Also delivered during the period specified were 15 model T-48-A trolley coaches, each of 48-psgr. capacity, to Winnipeg Electric Co.

Twin Coach Introduces Convertible Vehicle

Closely following its introduction of the "Fageol Super Freighter," viz., a Fruehauf trailer powered by a Fageol Twin Coach underfloor engine, Twin Coach Co. has now presented the automotive world with its "convertible", the standard model of which is 35 ft. long over all, providing seating accommodation for 37 passengers and having 321 cu. ft. of cargo space.

Twin Coach Co., Kent, O., has appeared with another "first", its new vehicle in this instance being a revolutionary unit which may be operated as either a passenger bus or a cargo truck, or as a combination of bus and truck. The new vehicle is designated as the Twin Coach "Convertible" and it can be converted at a moment's notice from passenger coach to cargo truck or vice versa, according to L. J. Fageol, the Twin Coach Co. President, and designer of the "Convertible". Also, Mr. Fageol states, the new unit may be operated as a combination bus and truck, transporting passengers comfortably and at the same time carrying a large quantity of freight or baggage. The standard model is 35 ft. long, and, as a combination vehicle, has 321 cu. ft. of cargo space and seats for 37 passengers.

The seats are socket-mounted and easily removable, and any desired number of seats may be taken out to increase the available cargo space. Socket-mounted freight compartment partitions can be moved at will. Large rear doors (81½ inches wide by 72 inches high) facilitate easy loading of freight. A lift truck can be driven directly from a loading dock into the "Convertible". Overhead bus baggage racks fold down to provide heavy protective screening for windows when the bus becomes a truck.

Structural design of the "Convertible" includes all of the mechanical and comfort features of standard Twin Coaches, according to Mr. Fageol. However, maximum freight-carrying capacity is secured by utilizing welded tubular steel underframes and side members manufactured by the Fruehauf Trailer Co. These are the same components used in Fruehauf Aerovan Trailers and are reputed to possess approximately three times greater structural strength than conventional bus bodies, Mr. Fageol said. "Convertibles" are available with either Twin Coach Torsilastic rubber springing or 2-stage conventional leaf type springs. Unladen weight of the 35 ft. "Convertible" is approximately 15,000 lb.

"Convertibles" are powered by Fageol Twin Coach 6-cylinder, high compression engines rated at 162 to 250 b.h.p. for various models. These may be operated on either gasoline or propane.

In announcing the "Convertible", Mr. Fageol stated that this new vehicle line provides the perfect answer to the long-existent need for a high quality, low cost intercity bus capable of handling both passengers and freight. He said that it is also ideally adapted for operation by industrial plants as an employee or working crew bus. Its great baggage capacity makes it ideal for use as an airport bus, he pointed out.

Other applications, listed by Mr. Fageol, include use as a high speed universal military personnel transport. A "Convertible" is also being designed for operation as a highway post office.

The "Convertible" marks the third new major development announced by Twin Coach this year. On March 31, the company unveiled the world's first complete line of propane-powered buses. These won immediate acceptance in the transit industry and Twin Coach currently possesses a $12 million motor coach backlog.

Approximately one month ago, Mr. Fageol announced the Fageol Super Freighter, a large capacity cargo truck built around standard Fruehauf Trailers. These vehicles are covered by patents pending as is the new line of Twin Coach "Convertibles". Plans are now being completed for full scale Super Freighter production.

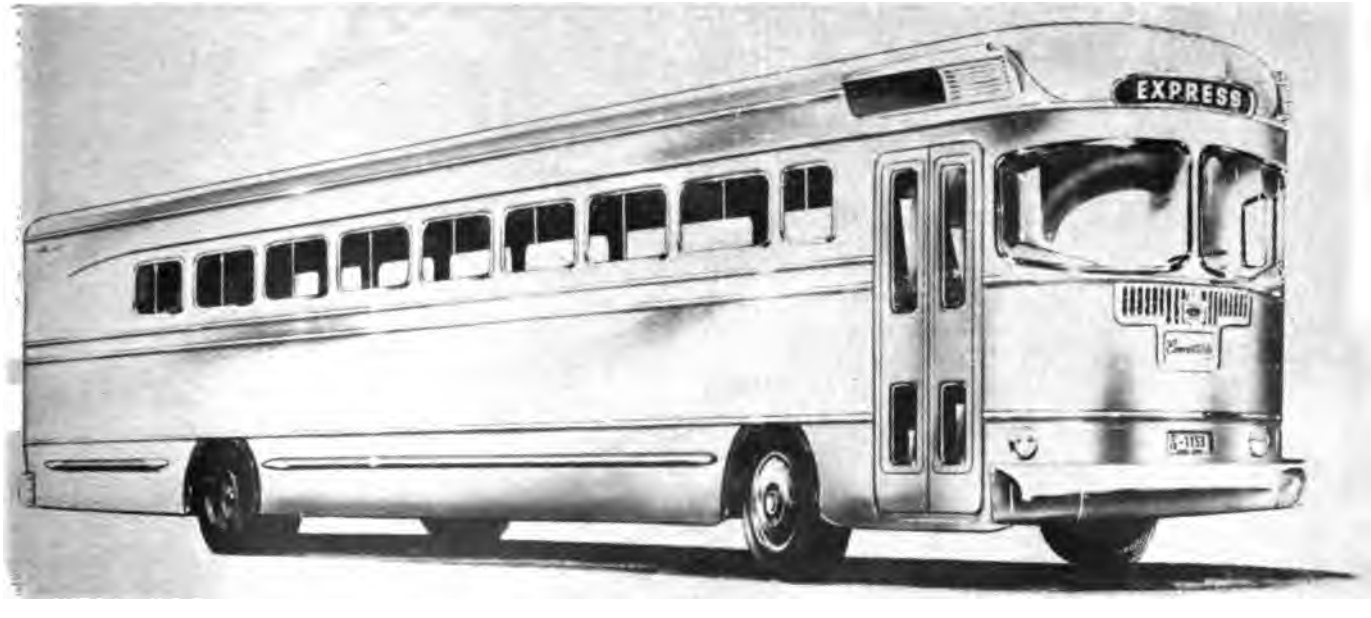
The "Convertible" will be manufactured as an additional product line and will not replace any of the current Twin Coach models.

Flxible-White Deliveries

In the period August 15-September 15, the Flxible Company, Loudonville, O., shipped two model 218B1-50, 29-psgr. coaches to The White Motor Co. of Canada, Ltd., Montreal, Que. The White Motor Co. of Canada, Ltd., advises of the sale of two 29-psgr. intercity type coaches on September 12.

Fitzjohn Coach Delivered

In the period October 15-November 14, Fitzjohn Coach of Canada, Ltd., supplied a model 310, 33-psgr. Cityliner coach to Kimberley City Bus Service, Kimberley, B.C.



The Twin Coach "Convertible"
The revolutionary new type of motor vehicle which may be operated as either a passenger bus or a cargo truck, or as a combination bus-truck.

Automotive Transport Association of Ontario Officers

An account of the proceedings at the recent 24th annual meeting of the Automotive Transport Association of Ontario was given in our November issue, pg. 631. At the meeting, G.M. Parke, of Consolidated Truck Lines, Ltd., Toronto, was elected President for 1950-51, with C. J. Doerr, of C. and H. Transport, Ltd., Waterloo, as First Vice President, and L. G. Teakle, of Overland Express, Ltd., Woodstock, as Second Vice President. C. S. Noble, of Motorways, Ltd., Ottawa, is Secretary; S. V. Martin, of Strathdee Transport, Ltd., Toronto, is Treasurer, and J. O. Goodman, Toronto, is General Manager.



G. M. Parke,
of Consolidated Truck Lines, Ltd., Toronto, and President, Automotive Transport Association of Ontario

The directors are elected on a regional basis, and are as follows:—

Toronto and District.—Mr. Parke; R. Leslie, of Canada Cartage System, Ltd., Toronto; W. H. Male, of Direct-Winters Transport, Toronto; Mr. Martin; C. H. Wilson, of Carwil Transport Ltd., Toronto.

Hamilton and Niagara Peninsula.—H. Haslam, of Haslam Transportation, Ltd., Hamilton; H. H. Leather, M.B.E., of Leather Cartage, Ltd., Hamilton; H. White, of Crawford Cartage, Ltd., Hamilton.

Western Ontario.—H. E. Adams, of Western Freight Lines, Ltd., Chatham; H. J. McManus, of Husband Transport, Ltd., London; C. A. Thibodeau, of Thibodeau Express, Windsor.

Central Ontario.—Mr. Doerr and Mr. Teakle.

Eastern Ontario.—N. J. Emblem, of Norman's Transfer, Ltd., Montreal; J. W. McGiffin, of Kingsway Transports, Ltd., Montreal; Mr. Noble.

Northern Ontario.—W. Little, M.P., of Walter Little, Ltd., Kirkland Lake; J. Palangio, of De-Luxe Transportation Co., North Bay; R. E. Kron, of John Kron and Son, Kenora.

W. C. Smith, of International Harvester Co., Ltd., Toronto, is an associate representative. Representatives of affiliated hauling organizations are as follows:—Automobile carriers, F. McCallum of McCallum Transport, Ltd., Oshawa; live stock transporters' division, D. N. Snyder, Baden; milk transporters' division, C. E. Binkley, Waterdown; Ontario Movers' Association, Wm. Pickard, of W. J. Pickard, Ltd., Toronto; Produce transporters' division, M. Bouk, Fonthill.

500-Bus Order For Chicago

The placing of an order for 500 51-psgr., propane-powered buses with Twin Coach Co., of Kent, O., by the Chicago Transit Authority, was recorded in our September issue, pg. 515. This order, probably the largest ever placed for bus equipment (the buses are valued at $16,235 each, making the value of the order $8,117,500), marked the first large entry of high octane propane-powered vehicles into the urban transit industry. The builder is making very satisfactory progress with the production of the buses. Recently, Chicago Transit Authority officers visited the Twin Coach plant in Kent, to check on production of the vehicles, and in the accompanying illustration, Walter Luli, Twin Coach Co. engineer, is shown explaining the Twin torsilastic spring action to J. N. Jobaris, Equipment Engineer, and George Zamzow, Automotive Engineer, Chicago Transit Authority.



Twin Coach Engineer Explains Spring Detail



C. S. Noble,
of Motorways, Ltd., Ottawa, and Secretary, Automotive Transport Association of Ontario

R. M. Smith Dead

Robert M. Smith, B.Sc., who was Deputy Minister, Ontario Department of Highways, from 1928 to 1943, and who retired from the position because of ill health, died at his home in Toronto, November 16, in his 64th year. Mr. Smith, who played an important part in the construction of the Alaska Highway, suffered a heart attack at Fort Saint John while engaged in the Alaska Highway work. He was born at Kingston, Ont., October 14, 1887, and graduated from Queen's University in 1914. From 1914 to 1917 he was a junior engineer in Ontario Government service, and entered the Highways Department service in 1917 as Resident Engineer in the Kingston area. After serving from 1920 to 1924 as Division Engineer at Toronto and in 1924 and 1925 as Location Engineer at Toronto, he became Chief Engineer, and from February 1, 1927, to the end of that year was also acting Deputy Minister. He was honored in 1943 by the Engineering Institute of Canada by award of the Julian C. Smith medal for achievement in the development of Canada. He was a member of the Association of Professional Engineers of the Province of Ontario.

Reo Deliveries

In the period September 15-October 14, Reo Motor Co. of Canada, Ltd., delivered nine safety school buses of up to 55-psgr. capacity.



Two Large Lake Tankers Launched

The two largest fresh water oil tankers in the world were launched in November, the ss. Imperial Leduc at Collingwood, November 4, and the ss. Imperial Redwater at Port Arthur, November 18.

The two large oil tank ships built for Pipe Line Tankers, Ltd., and to be leased by Imperial Oil Limited, were successfully launched in November. The side launching method was employed in both cases. The first ship launched was the ss. Imperial Leduc, built by The Collingwood Shipyards, Ltd., and she was followed two weeks later by the ss. Imperial Redwater, built by Port Arthur Shipbuilding Co., Ltd. These two tankers are now being outfitted, and following trial runs upon the opening of navigation, will enter service in the transportation of crude oil from Superior, Wis. (terminus of the 1,127-mile interprovincial pipeline from Alberta) to Sarnia and other oil-refining ports on the Great Lakes.

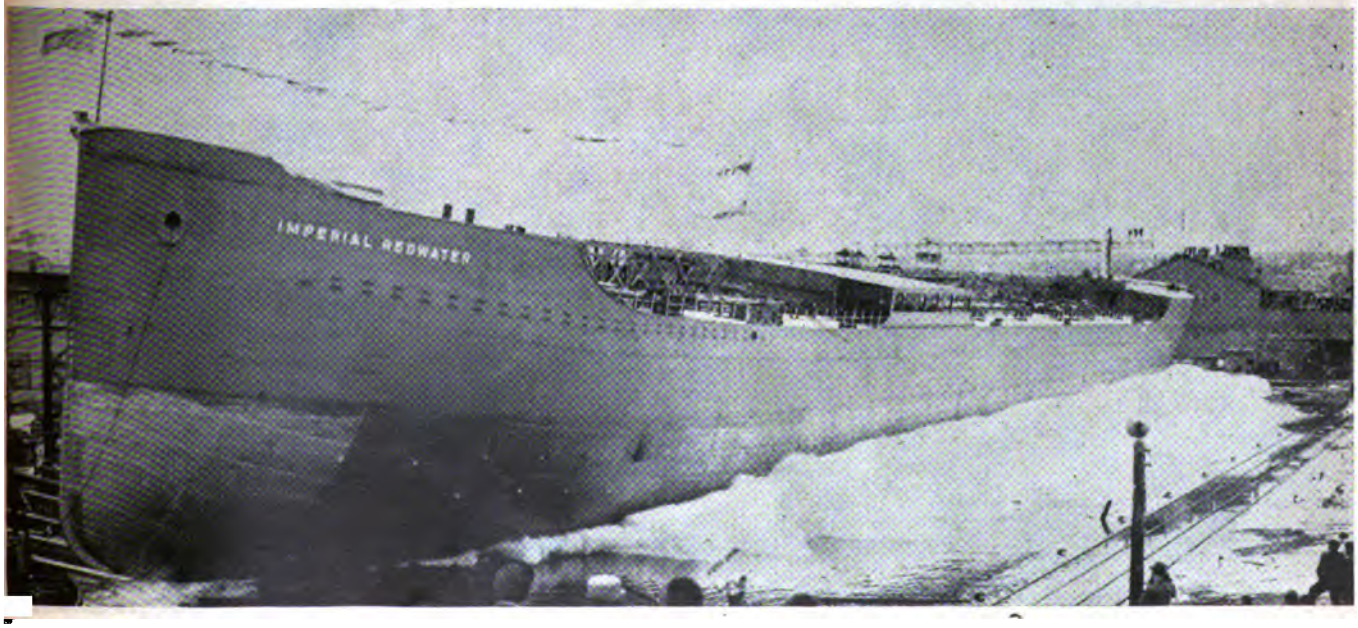
Launching of Ss. Imperial Leduc. —The first of the two tankers launched was the ss. Imperial Leduc, the one built by The Collingwood Shipyards, Ltd. As thousands of people watched from vantage points in the shipyard area, the 620 ft. ship slipped smoothly into the launching [illegible], which is only 97 ft wide, in a highly successful side launching. The ship was sponsored by Mrs. N. E. Tanner, wife of the Alberta Minister of Mines and Minerals. Champagne foamed over the bow of the big ship as Mrs. Tanner named her Imperial Leduc, after one of the major oilfields in Alberta. Then axes bit through the ropes holding the last blocks in place, and the huge tanker slid sideways with gathering speed down the ways and into the launching basin. Heavy chains attached to the hull prevented it from striking the wall at the side of the basin. A wave thrown up by the ship rushed over the basin walls and broke on barricades previously erected around the shipyard buildings. Within minutes, the hull, which weighed 5,000 tons at launching, was moored safely in the basin.

Following the launching of the ss. Imperial Leduc, The Collingwood Shipyards, Ltd., was host at a luncheon which was held in the Collingwood Community Arena and which was attended by about 450 people, including government, municipal and company officials, guests, visitors, employees and Collingwood citizens. H. W. Walton, General Manager, The Collingwood Shipyards, Ltd., presided. Music was furnished by the Collingwood Kiltie Band, which had also furnished music during the launching ceremony. Capt. W. R. Smeltzer, Manager, Imperial Oil Limited Marine Department, introduced the head table guests. Mayor J. E. McIntosh of Collingwood extended greetings and welcomed the visitors to Collingwood. He extended thanks to the Imperial Oil Limited for having made possible the building of the ss. Imperial Leduc in Collingwood, and congratulated the building company and its employees on the turning out of such a fine ship, and on the successful launching.

Mr. Walton, in extending a welcome to the guests, stated as follows:—

"The ship we have just seen so happily launched today is the tenth built at Collingwood Shipyards for the use of the Imperial Oil Limited.

"This figure is significant because it demonstrates the great extent to which the shipbuilding industry, not only in Collingwood but throughout



The Launching of the Ss. Imperial Redwater at Port Arthur
Note the very limited width of the slip into which the huge hull was launched.

the world, depends for employment on the contracts received from the great oil companies, such as Imperial Oil Limited.

"Since 1947 contracts placed with this yard alone by the Imperial Oil Limited and their associates, Pipe Line Tankers, Ltd., amount to approximately $7,500,000, and they have also given us further employment during this period in reconstruction and repair work.

"We here at Collingwood engaged in the shipbuilding industry, which at times has extreme fluctuations of employment, feel distressed when we cannot provide employment for all our employees for whom we have a deep sense of responsibility.

"Many times in the past, companies like the Imperial Oil Limited have come to our aid and, by the contracts received from them, have helped us to make that provision for employment of our shipbuilders which we consider our first responsibility in this community.

"At the present moment the only vessels building in this company's Canadian Great Lakes yards are oil tankers and, but for this great Alberta oil industry, the state of employment in our Great Lakes shipbuilding yards during 1950 would have presented a very different picture.

"Happily the oil industry appears to be getting stronger every day. The demand for oil for every conceivable purpose is increasing rapidly in every phase of our present day civilization and the increasing demand, not only for oil but also its derivatives, is so great that it appears supply will never catch up with demand.

"A tanker the size of the 'Imperial Leduc' was an unheard of proposition as far as the Great Lakes is concerned until about twelve months ago. If tankers of this size are contemplated for the future, we at Collingwood Shipyards are prepared to build them, by keeping our plant up to date and our efficiency in A-1 condition. We look forward hopefully to the future with our shipyards playing their part in the development of oil transportation.

"The 'Imperial Leduc' is the first of the two largest tankers ever built in Canada. Her sister ship, the 'Imperial Redwater' is rapidly approaching launching stage at Port Arthur and will be launched in a few weeks.

"These vessels will carry 15,800 tons deadweight and the accommodation for the officers and crew is up to the high standards which are traditional of the owner's fleet.

"The 'Imperial Leduc' will, I am sure, prove to be both a ship of character and a happy ship. We, as builders, feel highly honoured, first, that this shipyard was selected by the owners to build this important addition to their transportation system, and, secondly, that Mrs. Tanner has journeyed all the way from the other end of the Pipe Line to christen this ship.

"In conclusion I would like to pay tribute to all the employees of the Collingwood Shipyards who, through their untiring efforts, have made it possible to launch this ship on schedule, and to acknowledge the guidance and assistance we have received from Imperial Oil's management and technical staff and to thank them, together with the Surveyors of Lloyd's Register and the Canadian Steamship Inspection, for their co-operation at all times, without which we could not have lived up to the rigid schedule set out at the start."

Mr. Walton then turned to Mrs. Tanner, who had sponsored the ss. Imperial Leduc at the launching, and thanked her for having journeyed from Alberta to Collingwood to christen the ship. He then presented her with a large silver monogrammed tray, suitably inscribed to commemorate the occasion. He then introduced George L. Stewart, President, Imperial Oil Limited, who pointed out that the Imperial Leduc, the world's largest inland oil tanker, is Canadian in design and construction.

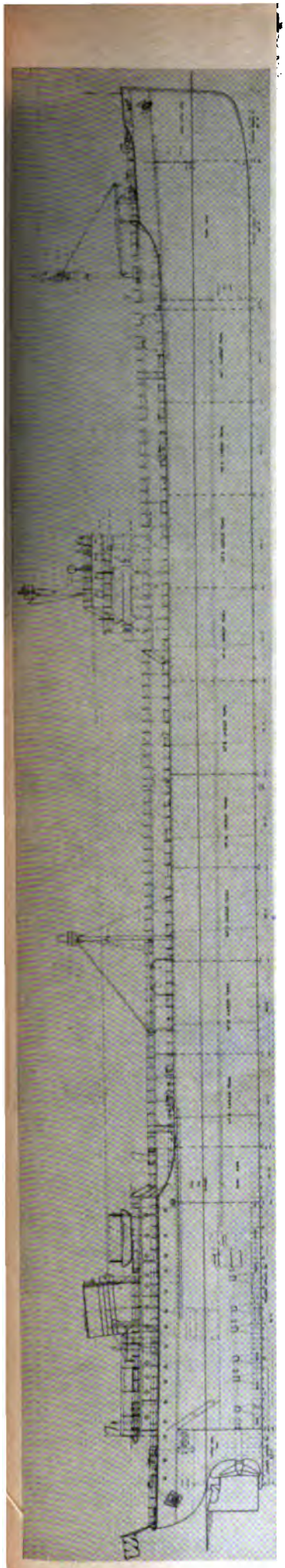


Mrs. N. E. Tanner Sponsored the Ss. Imperial Leduc



Launching of the Pipe Line Tankers, Ltd., Ss. Imperial Leduc, at the Yard of The Collingwood Shipyards, Ltd., November 4.

The hull weighed 5,000 tons at launching. The side launching was a very successful one, and the heavy chains evident at the left prevented the hull from striking the wall (seen at the right) at the side of the basin.



One of the Two New Great Lakes Tankers for Pipe Line Tankers, Ltd., in Elevation

saying in part:—"Her plans were laid out on the drawing boards in our own marine department. Ninety-five per cent. of the steel in her hull came from Hamilton and Sault Ste. Marie; the boilers that will generate her steam were made in St. Catharines; the turbines that will drive her propeller came from Toronto and the propeller from Owen Sound. And so I could go on, referring to most of her other equipment and fittings which also are Canadian, in fact, she is to the largest extent possible—about 95 per cent.—of Canadian materials and equipment. And of course she is the product of Canadian labor.

"I welcome this opportunity, Mr. Walton, to congratulate you and your associates in the offices and in the yards—the skilled craftsmen and all the workers—on a splendid job.

"Congratulations are due also to the representatives of Lloyds' Register of Shipping and of the Canadian steamship inspection service for their co-operation in developing a vessel of the highest and most modern standards.

"I think congratulations are appropriate, too, for the Town of Collingwood and its people who have such fine and efficient industry here. In this connection I speak from long experience. The first tanker built here for Imperial Oil was back in 1916. Since then this Collingwood industry has launched ten tankers for our use. The last of these up to now was the Imperial Sarnia, and I remember the pride with which we saw her slip from the ways. I doubt if any of us who were present on that occasion dreamed that within a relatively brief period a tanker twice the size of the Imperial Sarnia would be nearing completion here."

Mr. Stewart explained that the ss. Imperial Leduc is the offspring of a great effort over a long period to establish Canada as an important oil-producing country. He pointed out that Canada has for years been the world's second largest per capita consumer of petroleum, but that until recently she has been dependent on foreign sources for 92% of her petroleum requirements. He said:—"Although the search for oil was carried on for many years and with dogged persistence, there was little encouragement for the oil seekers apart from the discovery of oil in Turner Valley in 1936. Then in February of 1947 we were given new heart by the discovery of the Leduc field. The Imperial Leduc is a magnificent and useful monument to that event.

"Moreover, the Imperial Leduc is evidence of the success that has since been encountered with the result that already our prairie oil resources exceed the prairie needs. The new ship is a link in a great transport system costing more than $100 million which will move oil out beyond the prairie markets. The building of this fine ship proves that enterprise and ingenuity are not lacking for the task of expanding Canada's oil economy; it indicates, I believe, that as and when even larger resources of oil are proven, even larger markets will be reached. In brief it is tangible evidence that Canada will benefit as promptly and effectively as possible from the continued development of her great new resources.

"The Imperial Leduc tells a story of Canada's expanding industrial greatness, of the skill of Canadian workers and the growing economic unity of our country. Above all, this ship portrays a land where democracy is real, a country where economics as well as politics are governed by the needs of the people, for she is built to serve human needs. And so I am confident that Imperial Leduc will have a long and useful life. The men who will sail her will have every reason to be as proud of her as the men who built her."

Mr. Walton then introduced Col. K. R. Marshall, President, Canada Steamship Lines, Ltd., who remarked



Ss. Imperial Redwater Shortly Before Launching

that the launching of the ss. Imperial Leduc required skill, in view of the small water area available. He recalled his visit to Collingwood at the time of the launching of the ss. Hochelaga, and said that he was depressed at that time because he did not see where there would be any more work available in the then immediate future for the shipyard at Collingwood. However, a short time later, the work of building the ss. Imperial Leduc was furnished. He spoke optimistically of the prospects for further work.

Mr. Walton then introduced Hon. N. E. Tanner, Minister of Mines and Minerals for Alberta, who expressed thanks for the honor accorded his wife in inviting her to sponsor the ss. Imperial Leduc. He said that the building of the ss. Imperial Leduc in an Ontario yard forges another link between east and west. He mentioned some of the enterprises of Alberta, particularly the Interprovincial Pipe Line Co. work. He said that Alberta hopes to continue to add to its own progress and to thus make further contributions to the progress of Canada as a whole.

Head table guests in addition to those mentioned in the foregoing were A. R. Riddell, Chief Surveyor for Canada, Lloyd's Register of Shipping; J. Moffat, Chief Inspector, Canadian Steamship Inspection Service; Capt. R. Baker, Chief Naval Constructor, R.C.N.; J. R. White and Dr. O. B. Hopkins, Imperial Oil Limited vice presidents; Capt. N. J. Reoch, General Manager, Canada Steamship Lines, Ltd.; Hon. D. A. Ure, Minister of Agriculture for Alberta; and T. S. Johnson and L. F. Cahle of Interprovincial Pipe Line Co.

Launching of ss. Imperial Redwater.—Despite the fact that the ss. Imperial Redwater had to be side-launched into a body of water not very much wider than the ship itself, the launching was a highly successful one. The ship was sponsored by Mrs. C. D. Howe, wife of Rt. Hon. C. D. Howe, Minister of Trade and Commerce. The Imperial Redwater is the largest ship built to date in Port Arthur, although not the longest, her length of 620 ft. comparing with the length of 625 ft. of the freighter Donnacona, formerly the Grant Morden, built in 1913-1914, a ship 59 ft. wide and 32 ft. deep, compared with the 68 ft. width and 35 ft. depth of the Imperial Redwater.

Particulars of Ships.— The ss. Imperial Leduc and the ss. Imperial Redwater will be the largest tankers in Great Lakes service and the largest ever built to date in Canadian shipyards. Leading dimmensions are:—Length over all, 620 ft.; breadth, 68 ft.; depth, 35 ft.; designed draft, 24 ft. Deadweight tonnage is 15,800. Each ship will have a capacity for 115,000 barrels of oil (4,025,000 gall.) on the designed draft of 24 ft.



Automatic Welding Machine on Ss. Imperial Redwater Main Deck. Operator picking up surplus welding melt with vacuum hose.

Each ship is to be powered by a 4,500 h.p. geared turbine installation, Parsons type, being supplied by the John Inglis Co. Ltd., Toronto, with steam supplied by two water tube boilers at 450 lb. per sq. in. These boilers, being supplied by Foster Wheeler, Ltd., St. Catharines, Ont., will be oil-fired. The ships will have service speed of 13 knots, enabling each to make a round trip between Superior, Wis., terminal of the interprovincial crude oil pipe line, and Sarnia, in five days. The expectation is that each ship will be able to transport approximately five million barrels of oil in each navigation season. Each ship will be fitted with pumping equipment enabling it to discharge oil at a rate of 15,000 barrels an hour, while equipment at the pipe line terminal at Superior will provide a loading rate of 20,000 barrels an hour.

The ships are being fitted with navigation equipment of most modern type, including radar, Gyro-compass, ship-to-shore telephone, radio direction finder and fathometer. Also, the ships will be most adequately protected against fire. Modern type carbon dioxide, steam smothering and portable fire extinguishers will be installed, in addition to which fire retarding materials are being utilized throughout the crew's quarters. Particular attention is being given the crew accommodation; recreation rooms are being provided for officers and men, and not more than two men will be assigned to a stateroom. Each ship will carry a 36-man crew.

The ships, designed by naval architects of Imperial Oil Limited Marine Department, and built at cost of about $4 million each, are being chartered by Pipe Line Tankers, Ltd., to Imperial Oil Limited for a 15-year term. Both ships will be outfitted during the winter and made ready for trial runs upon the opening of navigation next spring.

The hull steel for these ships was supplied by the Steel Co. of Canada, Ltd., Hamilton, Ont.; the furnishings are all being made in Canada, and most of the materials in the ships were supplied by Canadian firms.

Victoria Machinery Depot Co., Ltd.

A great many repair jobs have been carried out by Victoria Machinery Depot Co., Ltd., Victoria and Esquimalt, including the following:—For King Brothers, Agents, ss. Nicholas Kulukundis, testing rigging, etc.; ss. Pacific Star, repairs to winch; ss. Hartismer, boiler repairs; ss. Brazilian Prince, ship repairs; ss. San Leonardo, ship repairs; ss. Christianson Smith, ship repairs.—For Alberni Engine Works (contractor), ss. Empire Nene, engine repairs.—For B.C. Ship Chartering Co., Ltd., ss. Lakemba, repairs to engine indicator.—For Anglo-Canadian Shipping Co., ss. Willowbank, inspection and repairs; ss. Nootka, ship repairs.—For Griffiths Steamship Co., tug Mogul, planking and electrical repairs.—For Island Tug and Barge, Ltd., barge Island Star, boiler repairs; tug Burrard Chief, cleaning and repairing boiler; tug Island Champion, docking and repairs; barge Forest Friend, damage repairs; tug, Island Ranger, docking for inspection; scow I. T. No. 16, docking for inspection; barge Lord Templetown, ship repairs.—For Western Whaling Co., ms. Tahsis Chief, docking and extensive damage repairs.—For B.C. Packers, packer Good Partner, docking for inspection and repairs.—For the Canadian Fish Co., packer Daisy B, repairs to winch.—For J. H. Todd Co., packer C. F. Todd, docking, cleaning and painting and repairs.—For National Packing Co., packer Pender Isle, repairs to brickwork.—For C.P.R. B.C. Coast Steamship Service, ss. Princess Mary, ss. Princess Maquinna and ss. Princess Elaine, docking, cleaning, painting, ship repairs and carrying out fire protection work to Steamship Inspection requirements.—For Canadian National Rys., barge Ogden Point, cutting in plimsoll line.

Grain Movement on Great Lakes

In the period from the opening of navigation in the spring of 1950 to July 31, 1950 (end of the 1949-50 crop year) there were 69,158,529 bush. of wheat moved by water from Fort William and Port Arthur, together with considerable quantities of other grains. Of the wheat shipped, 63,595,224 bush. went to Canadian ports.

Figures supplied by the Statistics Branch of the Board of Grain Commissioners for Canada, Fort William, Ont., record the quantities of the various grains shipped by lake from Fort William and Port Arthur in the period from the opening of navigation in 1950, to the end of the 1949-50 crop year on July 31, and also show the amount of each kind of grain shipped to individual ports. In the period, wheat shipped totalled 69,158,529 bush., this figure not including durum wheat, which totalled 3,231,189 bush. The shipments of oats were 9,536,682 bush.; of barley, 11,217,953 bush.; of rye, 2,918,107 bush., and of flaxseed, 557,614 bush. There were also considerable quantities of mixed grain, sample grain and screenings shipped, the exact figures being shown in the accompanying table.

As concerns receipts of wheat shipped by lake from Fort William and Port Arthur in the period, Port Colborne was the leading port with 18,500,158 bush., followed by Kingston with 10,136,286 bush. Midland was third with 8,474,739 bush., and Buffalo stood fourth with 5,268,958 bush. Detroit was the only United States port in addition to Buffalo which received water-borne Canadian wheat during the period. No durum wheat was consigned to a U.S. port during the period, the total shipments of 3,231,189 bush. having been to Canadian ports. The leading port as regards receipts of durum wheat was Port Colborne with 898,512 bush., followed by Midland, with 540,287 bush.

Of the total shipments of 9,536,682 bush. of oats, 8,682,917 bush. went to Canadian ports and 853,765 bush. to U.S. ports. The leading port in point of receipts of oats was Goderich, with 3,066,802 bush., followed by Midland with 1,082,327 bush.

The lake shipments of barley were fairly evenly divided as between Canadian and U.S. ports, there having been 5,645,171 bush. consigned to Canadian ports and 5,572,782 bush. to U.S. ports. Milwaukee was the leading port as concerns barley receipts, with 3,922,547 bush., followed by Toronto, with 1,556,263 bush., and Goderich with 1,104,049 bush.

All of the rye shipped by lake during the period except 31,000 bush. (consigned to Goderich) went to U.S. ports. Chicago received 1,502,210 bush.; Duluth-Superior, 712,680 bush., and Buffalo, 672,217 bush.

Of the 557,614 bush. of flaxseed shipped by water during the period, 539,518 bush. went to Canadian ports, the remaining 18,096 bush. having been consigned to Europe direct, along with 199,124 bush. wheat. Toronto was the leading port in point of flaxseed receipts, with 243,979 bush.

The lake shipments of mixed grain during the period were 5,926,880 lb., of which 4,518,480 lb. went to Goderich and the balance to Owen Sound. Sample grain shipments during the period were 20,657,216 lb., with the largest shipments to Goderich and Midland. Shipments of screenings totalled 24,592 tons, most of which (17,197 tons) went to Duluth-Superior, with the balance divided between Goderich and Owen Sound. Particulars of the lake shipments during the period are given in the following table.

Lake Grain Shipments from Fort William and Port Arthur from Opening of Navigation to July 31, 1950 (End of 1949-50 Crop Year)

	Wheat Bush.	Durum Wheat Bush.	Oats Bush.	Barley Bush.	Rye Bush.	Flaxseed Bush.	Mixed Grain Lb.	Sample Grain Lb.	Screenings Tons
To Canadian Ports									
Collingwood	1,918,835		106,155	22,827					
Goderich	2,880,876	203,172	3,066,802	1,104,049	31,000	95,558	4,518,480	9,869,896	4,539
Humberstone	3,012,642	133,640							
Kingston	10,136,286	279,429	508,104	804,395		125,994			
Midland	8,474,739	540,287	1,082,327	483,988				7,721,270	
Owen Sound	2,623,920	362,686	683,100	364,886			1,408,400	1,586,590	2,856
Port Colborne	18,500,158	898,512	366,823	128,024					
Port McNicoll	3,953,025	206,446	80,350	25,790					
Prescott	2,986,825		186,515	158,115					
Sarnia	3,656,867	250,719	615,886	187,585					
Toronto	2,967,021		686,046	1,556,263		243,979			
Walkerville	354,051		261,995					1,479,460	
Montreal	1,275,182	356,298	663,311	547,126		73,987			
Quebec	178,379		375,503	262,123					
Three Rivers	676,418								
Total to Canadian Ports	63,595,224	3,231,189	8,682,917	5,645,171	31,000	539,518	5,926,880	20,657,216	7,395
To United States Ports									
Buffalo	5,268,958		336,225	259,258	672,217				
Chicago					1,502,210				
Detroit	95,223								
Duluth-Superior				627,938	712,680				17,197
Huron, Ohio			517,540						
Manitowoc				763,039					
Milwaukee				3,922,547					
Total to United States Ports	5,364,181		853,765	5,572,782	2,887,107				17,197
Europe Direct	199,124					18,096			
Grand Total	69,158,529	3,231,189	9,536,682	11,217,953	2,918,107	557,614	5,926,880	20,657,216	24,592

P.W.D. Marine Contracts

In September, the following contracts of marine interest were awarded by the Dominion Department of Public Works:—

For dredging at Whitby, Ont., to Russell Construction Co., Ltd., Toronto, at approximately $18,480.

For dredging in the inside ship channel in Georgian Bay, to Russell Construction Co., Ltd., Toronto, at approximately $144,302.50.

For ship repairs at Bowmanville, Ont., to Bermingham Construction, Ltd., Hamilton, Ont., at approximately $14,681.25.

For construction of a wharf at Turkey Point, Ont., to R. A. Blyth, Toronto, at approximately $17,181.

For wharf reconstruction at Noyan (Lacolle), Que., to Raymond Matte, Ltee., Montreal, at approximately $22,392.09.

For construction of a wharf at St. Barthelemi, Que., to J. E. Cote, Shawinigan Falls, Que., at approximately $8,589.

For construction of a toilet building at Lorne Dry Dock, Lauzon, Que., to J. Lionel Bizier, Quebec, Que., at $37,747.

For dredging at Wheatley, Ont., to Dean Construction Co. Ltd., Belle River, Ont., at approximately $12,150.

For wharf replacement at Long Spur Lake, Ont., to L. R. Brown and Co., Ltd., Sault Ste. Marie, Ont., at approximately $6,326.

For wharf reconstruction (bulkhead wall) at Beausoleil Island, Ont., to

Bermingham Construction, Ltd., Hamilton, Ont., at approximately $45,022.

For construction of a breakwater at Upper Blandford, N.S., to R. A. Douglas, New Glasgow, N.S., at approximately $52,112.50.

For dredging at St. Mungo Bend, Fraser River, B.C., to British Columbia Bridge and Dredging Co. Ltd., Vancouver, at approximately $43,500.

For construction of a seaplane landing at Alert Bay, B.C., to R. J. Dunlop and Co., Ltd., Vancouver, at approximately $29,211.54.

For wharf extension at North West Cove, N.S., to The Atlantic Bridge Co., Ltd., Lunenburg, N.S., at approximately $16,800.

For dredging at Riviere du Loup, Que., to The J. P. Porter Co., Ltd., Montreal, at approximately $57,246.

For extension to West Guide Pier at Lorne Graving Dock, Lauzon, Que., to Capt. Edgar Jourdain, Cap Chat, Que., at approximately $237,215.50.

For dredging at Hamilton, Ont., to The J. P. Porter Co., Ltd., Montreal, at approximately $623,700.

For reconstruction of harbor works at Grand Bank, Nfld., to Diamond Construction Co., Ltd., Fredericton, N.B., at approximately $144,305.

Contracts Awarded in October

Contracts of marine interest awarded by the Dominion Department of Public Works in October were:—

For construction of breakwater at Friendly Cove (Nootka Island), B.C., to Coast Quarries, Ltd., Vancouver, at approximately $32,712.

For wharf reconstruction at Stratford Centre, Que., to J. E. Cote, Shawinigan Falls, Que., at approximately $11,821.

For dredging at Feltzen South and Lunenburg, N.S., to The J. P. Porter Co., Ltd., Montreal, at approximately $69.926.56.

For harbor repairs and improvements at Midland (Tiffin), Ont., to Russell Construction Co., Ltd., Toronto, at approximately $19,653.60.

For construction of a deep water wharf at Bonavista, Nfld., to North Shore Construction Co., Ltd., Montreal, at approximately $184,769.40.

For wharf construction at Alice Arm, B.C., to Findlay White Construction Co., Ltd., Qualicum Beach, B.C., at approximately $29,353.

For construction of a wharf at Hay River, N.W.T., to Bond Construction Co., Ltd., Edmonton, Alta., at approximately $56,641.

For wharf reconstruction at Belliveau, N.B., to Comeau and Savoie Construction, Ltd., Caraquet, N.B., at approximately $22,960.

For improvements (channel protection No. 1 Island) at Fraser River, B.C., to Gilley Brother, Ltd., New Westminster, B.C., at approximately $290,000.

For wharf repairs at Port Hardy, B.C., to James McDonald Construction Co., Ltd., Vancouver, at approximately $50,983.

For wharf repairs at Black River, N.B., to J. S. Parker, Saint John, N.B., at approximately $17,928.

For construction of a float at Bull Harbour (Hope Island), B.C., to James McDonald Construction Co., Ltd., Vancouver, at approximately $12,995.

For harbor improvements at Cocagne Cape, N.B., to J. W. and J. Anderson, Ltd., Burnt Church, N.B., at approximately $56,461.50.

For dredging at Sorel, Que., to Lucien Lachapelle, Sorel, at approximately $18,000.

For dredging at Contrecoeur, Que., to Lucien Lachapelle, Sorel, Que., at approximately $9,610.20.

For breakwater repairs at Green Point, N.B., to Diamond Construction Co., Ltd., Fredericton, N.B., at approximately $59,698.

For renewal of floats and dolphin piles at New Massett, B.C., to A. T. Holland and H. B. Phillips, Massett, at approximately $8,455.

For wharf repairs and improvements at Middle East Pubnico, N.S., to Mosher and Rawding. Liverpool, N.S., at approximately $10,328.

For wharf construction at Pelee Island, Ont., to Rieger Brothers Construction Co.. Ltd., Scudder, P.O., Ont., at approximately $56,529.

For breakwater repairs at Saint John (Courteney Bay), N.B., to Carleton Construction Co., Ltd., Saint John, at approximately $53,875.

For construction of a seaplane landing at Massett, B.C., to Arthur T. Holland and H. B. Phillips, Massett, at approximately $39,987.60.

For dredging at Port Arthur, Ont., to Consolidated Dredging, Ltd., Toronto, at approximately $44,560.

Aluminum Shipping Containers

What is said to be a new departure in Canadian shipping technique was unveiled at the port of Montreal recently when three aluminum shipping containers, measuring six feet, nine inches square, and standing six feet high, were loaded into the holds of Saguenay Terminals Limited ss. "Sun Whit".



Loading One of the Aluminum Shipping Containers Aboard the Saguenay Terminals, Ltd., Ss. Sun Whit.

They each weigh only 750 lb., but have a capacity of 275 cubic feet. Each one can carry some four tons of cargo. Shipping containers are being used extensively in the United States and in Europe, but this is said to be the first time they have been utilized for a cargo dispatched from Canada.

They have numerous advantages over the conventional methods of shipping, main of which, perhaps, is that by their use the shipper is assured his merchandise will arrive at its destination intact. Losses from cargoes, which cost Canadian shippers hundreds of thousands of dollars annually, are eliminated. Once the cargo is loaded into the container at its point of origin, it is sealed and remains unopened until it reaches its destination. This also aids in speeding up shipments.

Aluminum shipping containers are feasible in almost any size and are applicable to all forms of transportation. They enable the manufacturer to ship his goods in less than car-load lots. The entire first order of six was manufactured by Ross Engineering, Ltd., Montreal.



Lading Stowed in Container

Chicoutimi and Three Rivers Harbours

In 1949, the National Harbours Boards reports, cargo tonnage to a total of 155,590 was handled through the Port of Chicoutimi, and to a total of 2,277,012 through Three Rivers.

Two harbours under the jurisdiction f the National Harbours Board, which were dealt with in that body's annual eport for 1949, are those of Chicouimi and Three Rivers. Activities in 1949 at these two ports are dealt with n the following.

Harbour of Chicoutimi

Chicoutimi Harbour is situated on the Saguenay River about 75 miles from the point at which that river flows into the St. Lawrence, about 120 miles below Quebec. The facilities operated by the National Harbours Board at the port include 2,500 linear feet of wharf, allowing ships of 26 ft. draft; a concrete fireproof shed, 400 x 60 ft.; a frame shed 150 x 40 ft. and about 8,500 ft. of standard gauge railway track, providing connection with Canadian National Rys.

Ship Arrivals and Departures.—In 1949, there were 198 ship arrivals at Chicoutimi, with net registered tonnage of 131,023, the figures for ship departures being the same. Of the arrivals, 21 were deep sea ships, compared with 36 in 1948.

Cargo Tonnage.—Water-borne cargo tonnage of foreign origin handled at Chicoutimi, inward, in 1949, was 23,-236, compared with 35,837 tons in 1948. Domestic cargo tonnage inward was 128,401, and outward, 3,953, a total of 132,354 tons, compared with 188,271 tons inward and 1,762 tons outward, a total of 190,033 tons, in 1948. Thus, the total cargo tonnage in 1949 was 155,590, compared with 225,870 in 1948. The accompanying table 1 provides particulars of the Chicoutimi cargo tonnage, by commodities, inward and outward, in 1949, the total figures for 1948 being given also.

Revenues and Expenses.—The Chicoutimi Harbour operating revenues last year were $58,385.47, and the administration, operation and maintenance expenses were $19,439.94, leaving operating income of $38,945.53. Income received from reserve funds was $4,047.33, making total income $42,992.86. The income received from reserve funds was transferred to reserves, and there were miscellaneous income charges of $3,017.29. For replacements, $30,000 was reserved, and interest due the Dominion Government was $104,819.10, leaving a net income deficit of $98,890.86. In 1948 there was a net income deficit of $105,514.

Harbour of Three Rivers

The Three Rivers Harbour is situated at the confluence of the St. Lawrence and St. Maurice rivers, about 81 miles below Montreal, and is open to navigation for about 7½ months each year. The facilities operated by the National Harbours Board include three main wharves having some 7,650 linear feet of berthing with minimum water depth of 30 ft., and nine transit sheds with total floor area of about 192,000 sq. ft.

Ship Arrivals and Departures.—In 1949 there were 2,200 ship arrivals at Three Rivers, with net registered tonnage of 2,241,825, compared with 2,243 arrivals in 1948, with net registered tonnage of 2,258,358. Ship departures in 1949 were 2,192, with net registered tonnage of 2,241,371; departures in 1948 were the same as arrivals. Deep sea ship arrivals in 1949 were 168, with net registered tonnage of 567,337, compared with 156 in 1948, with net registered tonnage of 534,286. Departures of deep sea ships in both years were the same as arrivals.



R.C.A.F. phoot

The Harbour of Three Rivers, Where the St. Maurice Flows into the St. Lawrence, 81 Miles Below Montreal

Cargo Tonnage.—Foreign cargo tonnage inward at Three Rivers in 1949 was 120,936, and outward, 343,468, a total of 464,404. Domestic cargo tonnage inward was 1,807,043, and outward, 5,565, a total of 1,812,608. Thus, total cargo tonnage inward was 1,-927,979, and outward, 349,033, a total of 2,277,012. The 1949 total cargo tonnage was 2,568,010.

By far the most important commodity in the Three Rivers Harbour cargo handlings is pulpwood, of which there was 1,125,540 tons handled inward in 1949, compared with 1,394,-779 tons in 1948. The grain tonnage handled in 1949 was 492,726, and the bituminous coal tonnage (all inward), 365,784. The outward paper and newsprint tonnage was 104,578. The accompanying table 2 provides particulars of the Three Rivers Harbour cargo tonnage, by commodities, inward and outward, in 1949, the total figures for 1948 being given also.

Grain Elevator.—Considerable grain was handled at the terminal elevator at Three Rivers in 1949. Receipts via

Table 1—Chicoutimi Harbour Cargo Tonnage, by Commodities.

Commodities	Inward 1949 (Tons)	Outward 1949 (Tons)	Total 1949 (Tons)	Total 1948 (Tons)
Coal, bituminous	85,242		85,242	173,485
Gasoline	26,601	4	26,605	20,295
Petroleum Oil, fuel	13,640	6	13,646	7,630
Coal, anthracite	9,197		9,197	11,214
Beverages, alcoholic	5,508		5,508	
Sulphur	5,430		5,430	5,099
Lumber (Planks, Boards and Flooring) and Square Timber	1,045	2,640	3,685	1,968
Potatoes	652	38	690	285
Molasses	259		259	1,042
All Goods not otherwise specified	4,063	1,265	5,328	4,314
Total	151,637	3,953	155,590	225,870

(Exclusive of ballast (non-revenue), bunkers, ships' stores, mail and passengers' baggage)

water were 9,029,636 bush., and shipments via water were 7,415,195 bush. Minor quantities were received and shipped by rail and a small quantity was shipped otherwise, presumably via highway. Total handlings in 1949 were 9,031,630 bush. inward and 7,423, 805 bush. outward, a total of 16,455,435 bush. Following are particulars of grain handled in 1949 and each of the four immediately preceding years.

	Receipts (Bush.)	Shipments (Bush.)	Total (Bush.)
Via water—			
1949	9,029,636	7,415,195	16,444,831
1948	6,408,216	8,238,337	14,646,553
1947	10,945,323	12,566,357	23,511,680
1946	3,057,387	6,793,063	9,850,450
1945	15,305,216	22,508,020	37,813,236
Via rail—			
1949	1,994	1,000	2,994
1948	1,825,912	3,000	1,828,912
1947	1,870,237		1,870,237
1946	1,835,311	24,000	1,859,311
1945	4,365,538	379,000	4,744,538
Via other—			
1949		7,610	7,610
1948		40,092	40,092
1947		160,765	160,765
1946		62,674	62,674
1945		51,133	51,133
Total—			
1949	9,031,630	7,423,805	16,455,435
1948	8,234,128	8,281,429	16,515,557
1947	12,815,560	12,727,122	25,542,682
1946	4,892,698	6,879,737	11,772,435
1945	19,670,754	22,938,153	42,608,907

Maintenance and Capital Works.—In 1949, ordinary maintenance and repairs were carried out in Three Rivers Harbour at cost of $19,786, and expenditure on capital works during the year was $2,163, for engineering surveys.

Revenues and Expenditures.—Three Rivers Harbour operating revenues in 1949 were $213,745.46, and administration, operating and maintenance expenses were $45,194.08, leaving operating income of $168,551.38. Income received from reserve funds was $35,141.77, bringing total income to $203,693.15. The income received from reserve funds was transferred to reserve, in addition to which there was a $200 reserve for bad debts and miscellaneous income charges of $204.81. For replacments, $70,000 was reserved, and interest due the Dominion Government was $179,592.85, leaving a net income deficit of $11,446.28 for the year. In 1948 there was a net income deficit of $3,367.

Below are the cargo figures for the Harbour of Three Rivers.

Table 2—Three Rivers Harbour Cargo Tonnage, by Commodities.

Commodities	Inward 1949 (Tons)	Outward 1949 (Tons)	Total 1949 (Tons)	Total 1948 (Tons)
Pulpwood	1,125,540		1,125,540	1,394,779
Grain	270,450	222,276	492,726	439,058
Coal, bituminous	365,784		365,784	511,916
Paper, newsprint		104,578	104,578	84,420
Petroleum Oil, fuel	82,584	69	82,653	15,610
Gasoline	25,516		25,516	23,704
Sulphur	22,627		22,627	26,890
Lumber (Planks, Boards and Flooring) and Square Timber	11,961	1,584	13,545	13,829
Clay	10,156		10,156	5,334
Calcium Carbide		5,194	5,194	3,692
Aluminum Manufactures not otherwise specified		4,119	4,119	4,753
Pulpboard (except Wallboard)		1,087	1,087	
Molasses	1,039		1,039	1,904
Milk, condensed, evaporated or powdered		564	564	626
Aluminum, in bars, billets, blocks, ingots, pigs, rods, sheets or slabs		551	551	
Acetic Acid		542	542	629
Flour, wheat	525	15	540	
All Goods not otherwise specified	11.797	8,454	20,251	40,866
Total	1,927,979	349,033	2,277,012	2,568,010

(Exclusive of ballast (non-revenue), bunkers, ships' stores, mail and passengers' baggage)

Mainly About Marine People

Capt. Westley C. Bennett, commander of the Canada Steamship Lines, Ltd., ss. Beaverton, died suddenly aboard his ship, October 27, when eight hours out of Fort William, bound for Montreal. Capt. Bennett, who was 55 years old, was born in Newfoundland, went to sea as a boy of 16 and sailed aboard North Atlantic fishing craft until 1928. He then entered C.S.L. service, and from 1930 to 1947 was first mate of the ss. Canadian. He then served as commander, in turn, of the Simcoe, the Hastings and the Fairmount, and took command of the ss. Beaverton last spring. His wife, a son and a daughter survive.

Miss Lorraine H. Gougeon, whose appointment as acting Secretary, Canadian Maritime Commission, was recorded in our September issue, is a native of St. Eugene, Ontario, and has been in governmental service since 1938. During the war years, she was with the Department of National Defence and later with the Department of Munitions and Supply, where she was associated with the present Minister of Transport, Mr. Chevrier when he was Parliamentary Assistant to the Minister of that Department. Miss Gougeon came to the Department of Transport as Private Secretary to Mr. Chevrier when he was appointed Minister in April, 1945.



Miss Lorraine H. Gougeon, who is acting as Secretary, Canadian Maritime Commission.

Capt. Harry W. Webster, long a commander of passenger ships in Canada Steamship Lines, Ltd., service on the Great Lakes, died in Toronto early in November, a few hours after admission to hospital, as the result of coronary thrombosis. He was 57 years old. He was born at Lunenburg, N.S., and was brought up in Boston. He entered C.S.L. Ltd., service as a young man, and secured his master's certificate in 1934. He served in the Canadian Army in the first world war. His most recent command was the ss. Cayuga, this having been the third year in which he was master of that ship; he had previously served as commander of the ss. Toronto and the ss. Kingston, both of which ships have since been scrapped. Surviving are his wife, one son and one daughter.

Navigation Lights On Great Lakes

Advice as to the dates to which navigation lights and fog alarms, on the Great Lakes and River St. Lawrence, will be kept in operation, was contained in a Notice to Mariners issued by the Department of Transport on November 1, information having been conveyed as in the following.

All Canadian lights and fog alarms on Lake Superior will be kept in operation until the close of navigation, with the exception of Caribou island which may close on December 6 and be replaced by an unwatched flashing white light for the winter months; Otter Head, which may close on December 8; Davieux island, Quebec harbour, Michipicoten island, east end, and Peninsula harbour which may close on December 10, and Ile Parisienne which may close on December 11 and be replaced by an unwatched flashing white light for the winter months.

All Canadian lights and fog alarms on Lake Huron, Georgian Bay, Lake St. Clair, Lake Erie and Lake Ontario and connecting waters, will be maintained in operation until the close of navigation, excepting Great Duck island, Lake Huron, which will close on or about December 13; Lonely island light, Georgian Bay, also Pigeon island, Main Duck island, False Ducks, Lake Ontario, and Pelee Passage, Lake Erie, which may close before the general close of navigation; Cove island, Lake Huron, and Western island, Georgian Bay, will be replaced by an unwatched flashing white light at the close of navigation.

All Canadian lights on the St. Law-

rence river will be maintained in operation until the close of navigation.

All lighted buoys and other floating aids to navigation will be maintained in position as long as ice conditions will permit, except as elsewhere advertised, and in cases where it is necessary to remove lighted buoys before the close of navigation, the more important points will be marked by spars.

Statement re Ss. Quebec Inquiry

In connection with the formal investigation into the fire aboard the Canada Steamship Lines, Ltd., ss. Quebec, mentioned in our October issue, pg. 583, readers have no doubt noted reports in the daily press to the effect that certain witnesses had expressed the opinion that the fire aboard the ship was deliberately set. Reports had stated that police and other officials were investigating the suspected arson, and in this connection the Minister of Transport, Mr. Chevrier, noted that one report had said that provincial police, company investigators and Department of Transport officials had been checking for weeks on the angle of suspected arson and had finally narrowed down their search to one man. The Minister denied that any officer of the Transport Department had been checking on the suspected arson; he stated that this is not the responsibility of his officers, but is the responsibility of those charged with the administration of the criminal law, and expressed regret that such reports were published before the court had handed down its decision and the matter remained sub judice.

The Minister's statement said:—"In the case of the ss. Quebec, a formal investigation under the provisions of the Canada Shipping Act is now being held by Mr. Justice Fernand Choquette as Commissioner, assisted by three assessors. This formal investigation is an inquiry directed in the public interest by the Department of Transport to ascertain the cause of the disaster. The Commissioner is constituted a Court under the Act and has power to cancel or suspend the certificate of any ship's officer whose wrongful act or default has caused damage or loss of life. The Court is not in any sense a court of criminal jurisdiction, and all matters of a criminal nature are left to the ordinary procedures of criminal law.

"The responsibility of the Department of Transport in the case of a formal investigation is to bring out with strict impartiality all facts bearing on the casualty whether for or against any particular party, and generally to assist the Court in its endeavour to reach a right conclusion. In the present case all available witnesses were produced by the Department, the questions for the opinion of the Court were read and witnesses were heard for Canada Steamship Lines. The decision of the Court has been reserved. When the decision of the Court has been given, the Department has no responsibility for making further investigation. Any questions of sabotage or arson are for the police and company investigators."

Water Levels, Great Lakes and St. Lawrence River

The Hydrographic and Map Service, Department of Mines and Technical Surveys, reports the following mean stages of the Great Lakes and St. Lawrence River for October, 1950, as computed by hourly readings from automatic gauge records. The reference for the Great Lakes is the U.S. Lake Survey Datum of 1903 adjustment, and for the Montreal Harbour, the Department of Public Works datum of 1915 adjustment:—

	Lake Superior at Port Arthur Ft.	Lake Huron at Goderich Ft.	Lake Erie at Port Colborne Ft.	Lake Ontario at Kingston Ft.	St. Lawrence River at Montreal Harbour Ft.
Monthly mean above sea level	603.53	579.87	572.10	245.88	19.41
Higher or lower (—) compared with:					
September, 1950	—0.05	—0.11	—0.19	—0.29	—0.59
October, 1949	0.71	0.96	0.65	0.91	0.94
Highest October since 1860	—0.07 (1916)	—3.22 (1876)	—2.17 (1861)	—1.81 (1861)	—6.49 (1861)
Lowest October since 1860	2.30 (1925)	2.10 (1934)	2.22 (1934)	3.04 (1934)	2.12 (1934)

Davie Shipbuilding and Repairing Co., Ltd.

During October, Davie Shipbuilding and Repairing Co., Ltd., Lauzon, Levis, Que., carried out repairs on the ms. Maria Los., the ms. London and the ss. St. Lawrence.

The company has contracts for three minesweepers, units in the current naval construction programme.

Escort Vessel Keel Laid

At the Canadian Vickers, Ltd., shipyard, in Montreal, on November 24, a 15-ton section of the keel of the first of the new anti-submarine escort vessels for the Royal Canadian Navy was lowered into place, with appropriate ceremony. Mrs. H. T. W. Grant, wife of Vice-Admiral Grant, Chief of Naval Staff, R.C.N., declared the keel "well and truly laid", and brief addresses were given by the Minister of Trade and Commerce, Rt. Hon. C. D. Howe, and the Canadian Vickers, Ltd., President, T. R. McLagan.

Gate Vessel Launched—The first of five trawler-type gate vessels being built for the R.C.N. was launched by George T. Davie and Sons, Ltd., Lauzon, Que., November 22, and christened Porte St. Jean.

Sault Ste. Marie Canals Traffic

Below is a statistical report on Great Lakes commerce passing through the canals at Sault Ste. Marie, Michigan and Ontario, in August, the figures having been compiled under the direction of John D. Bristor, Lieutenant-Colonel, Corps of Engineers, U.S. Army, District Engineer.

Items		U.S. Canal	Can. Canal	Total
Eastbound				
Ship passages	Number	1,267	478	1,745
Registered tonnage	Net	5,694,296	253,955	5,948,251
Passengers	Number	656	13,448	14,104
Freight	Short tons	13,449,341	203,096	13,652,437
Wood products:				
Lumber				
Shingles				
Pulpwood		43,296	28,064	71,360
Vegetable products:				
Flour			12,215	12,215
Wheat		320,040	50,488	370,528
Grain, other than wheat		201,782	66,426	268,208
Mineral products:				
Copper, lake				
Copper, electrolytic				
Zinc				
Iron ore		12,848,669		12,848,669
Scrap iron		5,850		5,850
M'f'd iron and steel		27,700		27,700
*Stone			7,200	7,200
General merchandise		2,004	38,703	40,707
Westbound				
Ship passages	Number	1,257	472	1,729
Registered tonnage	Net	5,650,939	260,833	5,911,772
Passengers	Number	666	13,147	13,813
Freight	Short tons	2,689,713	115,360	2,805,073
Mineral products:				
Coal, soft		2,230,885	24,626	2,255,511
Coal, hard		58,040	3,004	61,044
Iron ore		36,736		36,736
M'f'd iron and steel			709	709
Salt			20	20
*Stone		218,500		218,500
Petroleum products		107,978	37,161	145,139
Wood products:				
Pulpwood				
General merchandise		26,020	48,292	74,312
Automobiles		11,554	1,548	13,102
Summary				
Ship passages	Number	2,524	950	3,474
Registered tonnage	Net	11,345,235	514,788	11,860,023
Passengers	Number	1,322	26,595	27,917
Freight	Short tons	16,139,054	318,456	16,457,510

*Includes broken stone, gravel and sand.

Manufacturers and Suppliers

American Brake Shoe Co.

Recent announcement by the Chairman of the Board, American Brake Shoe Co., William B. Given, Jr., is that William T. Kelly, Jr., has been appointed President of the company's American Brakeblok Division, at the same time continuing as President of the Kellogg Division. Mr. Kelly, a native of Mobile, Ala., was educated at Phillips Academy and Yale University. He joined the company in 1928 as a moulder's helper at the National Bearing Division plant in St. Louis, Mo., and has had wide experience in its various divisions. He became General Purchasing Agent in 1940 and then served successively as Vice President and President of the Kellogg Division, Vice President and a director of the Canadian Ramapo Division, President of the Engineered Castings Division and Vice President of the company.



William T. Kelly, Jr.,
who has been appointed President, American Brakeblok Division, American Brake Shoe Co., and who continues also as President, Kellogg Division.

Maynard B. Terry, with headquarters in Detroit, will continue in charge of Brakeblok sales.

S. F. Bowser Co., Ltd.

R. D. Marsh, President, S. F. Bowser Co., Ltd., recently announced the appointment of J. J. Garry as General Sales Manager, and that of Fred Beldham as Ontario District Sales Manager. Mr. Garry was formerly Ontario District Manager, working out of Toronto, and Mr. Beldham was attached to the Hamilton office.

Canadian General Electric Co., Ltd.

The appointment of W. A. Williamson to the position of Manager, Vancouver District, Canadian General Electric Co., Ltd., was recorded in our November issue, pg. 643, where biographical information in regard to him was presented. A portrait of Mr. Williamson appears herewith.

The appointment of S. V. Grisdale as Manager of the Canadian General Electric Co., Ltd., Saint John office was announced recently. In his new position, Mr. Grisdale is responsible for the sales and service of the broad range of the company's products throughout New Brunswick. He has had extensive sales engineering experience, and over a number of years has been responsible for apparatus sales in the company's Halifax district, covering all of the Maritimes and Newfoundland. He is a 1936 graduate of McGill University, with the Bachelor of Engineering degree, and is a member of the Association of Professional Engineers of the Province of Nova Scotia and of the Engineering Institute of Canada.

Canadian Westinghouse Co., Ltd.

A. H. Sievert has been appointed Manager, Electronic Tube Sales Division, Canadian Westinghouse Co., Ltd. He has been with the company for fifteen years and served in the lamp and tube engineering divisions before transferring to sales in 1947. He will be responsible for sales of all receiving and special purpose tubes.



S. V. Grisdale,
Manager, St. John Office, Canadian General Electric Co., Ltd.

John J. Dawson has been appointed Manager, Lamp Sales, succeeding W. J. Orr, who has been appointed Special Representative, Lamp Sales Division.

Mr. Dawson joined Westinghouse in 1928, and, following experience in the lamp works, served for six years in the lamp engineering department. From 1936 to 1944 he covered Ontario for the service and sales divisions, becoming manager of the Ontario District Lamp Division during the latter year. 1946 brought a promotion to the post of Manager, Lamp and Lighting Division, Ontario District, and three years later he was transferred to Hamilton as Assistant Manager of Lamp Sales.

Prominent in I.E.S. activities, Mr. Dawson has served on the board of managers and as chairman of the membership committee of the Toronto section. He is also an active member of the Association of Professional Engineers of the Province of Ontario, the Electric Club of Toronto, and the Niagara District Electric Club.

Crane, Ltd.

James Irwin Robinson, President, Crane, Ltd., who had been ill for some time, died at his home in Montreal, October 23, aged 71. Mr. Robinson was born on a farm near Prescott, Ont., and received his education at Prescott and at Ottawa Business College. He proceeded to New York in 1897, and worked in various parts of the United States, with a firm supplying plumbing and steamfitting equipment, as a locomotive fireman, as a stationary engineer, and in construction work. He joined the Crane Company at San Francisco in 1907, as a salesman. Upon the outbreak of the first world war, he returned to Canada, and served with the Royal Canadian Engineers. After the war, he became Sales Manager for Crane, Ltd., and a short time later was made General Sales Manager for Canada, and in 1927 became a director. He was Branch Manager of the Vancouver office from 1932 to 1934; he became Vice President and General Manager in 1937, and President in 1948. He was a Mason, a member of the Engineers' Club, of the Seigniory Club, and of the Brotherhood of Locomotive Firemen and Enginemen.

At a special meeting of the Crane, Ltd., directors, in Montreal, near the end of October, L. H. T. Clegg, previously Vice President, was elected President of the company and its subsidiaries. Frank H. Meyer, previous-



W. A. Williamson,
Manager, Vancouver District, Canadian General Electric Co., Ltd.

ly Secretary and Treasurer, was elected Vice President, to succeed Mr. Clegg, and J. E. Gillespie, previously Assistant Secretary and Assistant Treasurer, was elected Secretary and Treasurer. A. Birmingham became Assistant Secretary and Assistant Treasurer. F. D. MacNaughton, General Manager of Sales, and G. R. Gustin, Manager of Factories, were named directors.

Dominion Hoist and Shovel Co., Ltd.

The new ¾-yard crawler machine shown in the accompanying illustration is now being produced by the Dominion Hoist and Shovel Co., Ltd., and may be inspected at the company's plant at Lachine, Que.

This Canadian-built machine is known as the Dominion 380. The 380 design incorporates new large-diameter uniform pressure cone swing clutches. For cool operation, these clutches are finned to assure rapid heat dissipation. Another feature is the new drum shaft assembly, which incorporates a planetary gear reversing mechanism for the crowding operation of the shovel. The split chain sprocket lends itself to quick removal for conversion to drum laggings suitable for pullshovel, clamshell or dragline. The new "Gooseneck" pullshovel attachment for this model is designed for effective digging up to a depth of 20 feet, and is already creating considerable favourable comment.

The 380 is heavier than average ¾-yard machines with an arrangement of mechanism which minimizes dead weight. The load on the revolving deck is distributed by four hook rollers which travel within its double flanged path. Power for this machine is supplied by an International Harvester UD-14-A Diesel engine which has 4 cylinders and develops 68 h.p. at 1150 r.p.m. This unit has an electric starting system. Steering and travel dogs are controlled from the operator's seat. New type booster bands with greater area provide for finger-tip control of the hoisting clutches. Ball and roller bearings are installed on all continuously-moving shafts. The standard tread links are 22 in. wide and driven by self-cleaning tread sprockets. For operation in soft ground, 27 in. swamp pads are available.

Front-end equipment is available for easy conversion to shovel, pullshovel, dragline, clamshell or lifting crane. Also available for this machine are lighting sets, engine heaters, windshield wipers, track grousers and boom extensions. On all shovels and clamshells a friction-type combination dipper trip and tagline is supplied.



Don E. Hutchings,
Manager, Operations Department, Parts and Accessories Division, Ford Motor Co. of Canada, Ltd.

Ford Motor Co. of Canada, Ltd.

Recent announcement by George H. Bates, General Manager, Parts and Accessories Division, Ford Motor Co. of Canada, Ltd., is that Don E. Hutchings, for many years with General Motors in Western Canada and Oshawa, has been appointed Manager of the Operations Department of the Division. Mr. Bates also announced that Bruce J. Smith had been appointed Acting Manager of the Division's Central Warehouse Organization at Windsor, with Ralph S. Tulk, previously Parts Depot Manager at Saint John, N.B., as Assistant Manager. Also, Ronald G. Parker, previously Parts Depot Manager at Calgary, has been transferred to the Windsor home office as Assistant Field Supervisor, working with Gerald P. Erskine, who continues as Field Supervisor in charge of parts depots outside of Windsor. Mr. Smith, who joined the company in 1940, was previously assistant department head in repair shipping.

Following upon the appointments announced by Mr. Bates, Mr. Hutchings announced a number of personnel moves within the parts depot organization, whereby John McLagan, previously General Foreman at the Saint John parts depot, has been appointed Manager of that depot; George Harper, previously Assistant Manager, Toronto parts depot, has been appointed Parts Depot Manager, Calgary; Everett Prosser, previously on the Saint John depot staff, has been appointed General Foreman, Saint John depot; Lee McIntyre, previously on the clerical staff at Saint John, has been appointed Chief Clerk at the Saint John depot, and Don Caithness, previously Chief Clerk, Saint John parts depot, has been transferred to the Windsor home office, to work on special assignments in connection with policies and procedures related to parts depot operation.



Bruce J. Smith,
Acting Manager, Ford Motor Co. of Canada, Ltd., Parts and Accessories Division Central Warehouse Organization, at Windsor, Ont.

International Harvester Co. of Canada, Ltd.

The International Harvester Co. of Canada, Ltd., directors announce the



The new ¾ Yd. "Dominion 380" Crawler Machine, Easily Convertible for Shovel, Pullshovel, Dragline, Clamshell or Crane Work.
This machine of many uses is powered by an International Harvester four-cylinder Diesel engine developing 68 h.p. at 1,150 r.p.m., and incorporates many features.



Ralph S. Tulk,
Assistant Manager, Ford Motor Co. of Canada, Ltd., Parts and Accessories Division Central Warehouse Organization, at Windsor, Ont.

retirement of C. W. Lockard, President and a director, effective October 31. Effective the same date, C. D. Roice, previously Senior Vice President and a director, was elected President.

Mr. Lockard began his service with the Canadian company in Brandon, Man., as a salesman, in 1913. He was appointed Assistant Manager at Lethbridge, Alta., in 1918, and in November, 1919, was transferred to Edmonton, Alta., in the same capacity. In July, 1924, he returned to Brandon as Manager, and approximately ten years later was appointed Assistant Canadian Sales Manager. In April, 1942, he was appointed Canadian Sales Manager, and four months later was elected Vice President. On January 12, 1944, he was elected President of the Canadian Company.

C. D. Roice, the newly-elected President, began his career with the parent company at Salina, Kansas, in May, 1924. He served in various managerial capacities at Topeka and Hutchinson, Kansas, until October, 1933, when he was appointed District Manager at Topeka. In 1935 he was appointed Assistant Managing Director of the International Harvester Company of Australia, Pty. Ltd., which position he held until 1939, when he returned to Salina as District Manager. From 1940 to 1945 he was District Manager (motor trucks) at Dallas, Tex., and Philadelphia, Pa. During 1946 and 1947 he was Managing Director of the International Harvester Company of Great Britain, Ltd. In October, 1947, he was appointed Assistant Director-General at Brussels, Belgium. In June, 1948, he was made Director-General of European Operations, with headquarters in Chicago. On April 17, 1950, he was elected a director and Senior Vice President of the Canadian company.

The Superheater Co., Inc., Division of Combustion Engineering—Superheater, Inc.

Recent official advice is that Philip D. Blanchard, formerly Service Manager, The Superheater Co., Inc., at East Chicago, Ind., is now associated with Wyatt, Inc., New Haven, Conn., who handle industrial and domestic fuels .Mr. Blanchard is a graduate of Massachusetts Institute of Technology with degree of bachelor of science in engineering administration. After graduation he was with American Locomotive Co. and later with The Superheater Co. for twenty-three years.

Twin Coach Co.

Recent announcement by Twin Coach Co., Kent, O., is that it earned a profit of $134,891 in the first nine months of 1950, equivalent to eight cents a common share after provision of $96,431 for preferred dividends. In the first nine months of 1949 the company lost $440,869.

While operations during the third quarter were profitable, President L. J. Fageol states, there were certain adjustments made which were in part applicable to prior operations, these having been in connection with the company's aircraft parts manufacturing operations, involving contract price revisions. As a result of these adjustments, the manufacturing profit of $210,000 in the third quarter became a nominal loss of $10,615 before tax credits, or a net loss of $4,315. The company's backlog of motor coach orders continued at the record high of about $12 million at the end of the third quarter, but motor coach production during the third quarter was far below schedule, because of severe material shortages. However, these shortages were gradually decreasing, and it was anticipated that production in the final quarter of the year would be increased substantially. Unfilled orders for aircraft parts at the end of the third quarter totalled approximately $16 million. Mr. Fageol indicated that fourth quarter operations were expected to be profitable. A dividend of 37½c a share on the company's preferred stock, payable December 20 to holders of record December 1, was declared by the directors on October 25.



C. D. Roice,
Newly-elected President of International Harvester Co. of Canada, Ltd.

Vapor Heating Corp.

The following changes in positions of Vapor Heating Corp. staff members, announced by L. H. Gillick, Vice President in charge of Sales, became effective November 1.



C. W. Lockard,
who was President and a director, International Harvester Co. of Canada, Ltd., and who retired October 31, after having been President since January 12, 1944.

J. T. Elwood, previously Sales Representative in Houston, serving railways in Texas and Louisiana, was transferred to Chicago, where he is in the sales department working out of the main office. P. M. Higgins, who has been working with railways out of the St. Louis office, has been transferred to Houston, to work with railways in Texas and Louisiana. R. M. Teichler, previously working out of the main office in Chicago, has been transferred to St. Louis, to work with railways in that area.

Canadian Vickers, Ltd.

In the period October 17-November 17, Canadian Vickers, Ltd., ran trial trips and delivered a single screw hopper dredge built for the Dominion Government. During the period, the company drydocked nine ships for repairs and repaired 20 afloat.

In the period September 17-October 16, the company drydocked three ships for repairs, and carried out repair work on 18 ships afloat.

Montreal dispatches record the launching at the Canadian Vickers, Ltd., shipyard, November 23, of what is spoken of as the largest railway freight car ferry in the world, a craft

christened "New Haven", built for West India Fruit and Steamship Co., Ltd., Norfolk, Va. This ship, for operation on a 270-mile route between West Palm Beach, Fla., and Havana, Cuba, is said to be 60 ft. longer and 12 ft. wider than any other craft of her type, and is to be fitted to meet tropical conditions. She is to carry a maximum of 40 freight cars on five tracks. She is 466 ft. long, with beam of 71 ft. and depth of 42 ft. from the upper deck, and is to be powered by Vickers-built engines to develop a total of 10,000 h.p., providing speed up to 18 knots. She will carry a crew of 56, with two men to a room, in outside accommodation, and accommodation for 12 passengers will be provided also. She was designed by Richard Lowery, Canadian Vickers, Ltd., Naval Architect. At the launching, she was sponsored by Mrs. D. E. Taylor, wife of the President of the owning company. The contract for building this ship was secured in competition with builders in many countries.

ASSOCIATIONS, CLUBS, MEETINGS

The names of the persons mentioned are those of the secretaries, unless otherwise stated

Air Industries and Transport Association of Canada—R. N. Redmayne, 610 Blackburn Bldg., Ottawa.

Air Transport Association of America—M. F. Redfern, 1107 Sixteenth St., N.W., Washington.

American Association of Baggage Traffic Managers—E. P. Soebbing, 1450 Railway Exchange Bldg., St. Louis, Mo.

American Association of Passenger Traffic Officers—B. D. Branch, Secretary-Treasurer, 143 Liberty St., New York 6.

American Association of Port Authorities—Paul A. Amundsen, 815 Washington Bldg., Washington 5, D.C.

American Association of Railroad Superintendents—Miss Elise LaChance, 431 S. Dearborn St., Chicago, 5.

American Railway Bridge and Building Association—Miss Elise LaChance, 431 S. Dearborn St., Chicago, 5.

American Railway Development Association — E. L. Beardsley, Secretary-Treasurer, The D & RGW RR. Company, P.O. 2040, Denver 1, Colo.

American Railway Engineering Association—N. D. Howard, 59 E. Van Buren St., Chicago, 5. Annual meeting, March 13-15, 1951.

American Society for Testing Materials—C. L. Warwick, 1916 Race St., Philadelphia 3, Pa. Annual meeting, June 18-22, 1951, Atlantic City, N.J.

American Society of Mechanical Engineers—Railroad Division Chairman, K. A. Browne, Chesapeake and Ohio Ry. Co., 3305 Terminal Tower, Cleveland 1, O. Secretary, E. L. Woodward, Western Mechanical Editor, Railway Age, 79 Monroe St., Chicago 3.

American Society of Tool Engineers—J. M. Cannon, Director of Public Relations, 523 Penobscot Bldg., Detroit, 26, Mich.

American Transit Association—A. W. Baker, 292 Madison Ave., New York 17, N.Y.

American Wood-Preservers Association—H. L. Dawson, 839 17th St. N.W., Washington 6. Annual meeting, April 25-26, 1951, Chicago, Ill.

Association of American Railroad Dining Car Officers—W. F. Ziervogel, 605 S. Rankin Ave., St. Louis 3, Mo.

Association of American Railroads—Headquarters, Washington, 6, D.C.—Officers: W. T. Faricy, President; J. Carter Fort, Vice President and General Counsel; G. M. Campbell, Secretary-Treasurer, and Operation and Maintenance Dept.—J. H. Aydelott, Vice President, Washington, 6. Operating—Transportation Division, L. R. Knott, Executive Vice Chairman, 59 East Van Buren St., Chicago 5.
- Operating Section, J. C. Caviston, 59 East Van Buren St., Chicago.
- Transportation Section, H. A. Eaton, 59 E. Van Buren St., Chicago.
- Communications Section, A. H. Grothmann, 59 East Van Buren St., Chicago.
- Fire Protection and Insurance Section, W. E. Todd, 59 E. Van Buren St., Chicago.
- Freight Station Section, W. E. Todd, 59 E. Van Buren St., Chicago.
- Medical and Surgical Section, J. C. Caviston, 59 East Van Buren St., Chicago.
- Protective Section, J. C. Caviston.
- Safety Section, J. C. Caviston.
- Freight Loading and Container Section, G. H. Ruhle, 59 E. Van Buren St., Chicago.

Engineering Division, Neal Howard, 59 E. Van Buren St., Chicago.
- Construction and Maintenance Section, Neal Howard.
- Electrical Section, Neal Howard.
- Signal Section, R. H. C. Balliet, 59 East Van Buren St., Chicago.

Mechanical Division, Fred Peronto, 59 E. Van Buren St., Chicago.
- Electrical Section, Fred Peronto.

Freight Claim Division, Lewis Pilcher, Executive Vice Chairman, 59 E. Van Buren St., Chicago.

Motor Transport Division, G. M. Campbell, Washington.

Car Service Division, A. F. Swinburne, Executive Assistant, Washington.

Bureau of Explosives—D. M. Grant, Inspector, lines east of Port Arthur, 342 Union Station, Toronto 1.

Finance Accounting, Taxation and Valuation Dept., E. H. Bunnell, Vice President, Washington.
- Accounting Division, E. R. Ford, Washington.
- Purchases and Stores Division, W. J. Farrell, Executive Vice Chairman, Washington, 6.
- Treasury Division, E. R. Ford.

Traffic Dept., W. J. Kelly, Vice President, Washington.

Bureau of Railway Economics—J. H. Parmelee, Vice President and Director, Washington.

Public Relations Department—R. S. Henry, Vice President, Washington.

Association of Railway Claim Agents—F. L. Johnson, Gulf, Mobile and Ohio Rd. Co., 104 St. Francis St., Mobile, 13, Ala. Annual meeting, May 2-4, 1951. Biloxi, Miss.

Canadian Automotive Electric Association—J. A. Bennet, Executive Secretary, 159 Bay Street, Toronto, and R. C. Sullivan, Secretary-Treasurer, 7 Dover St., Chatham.

Canadian Automotive Transportation Association—John Magee, Executive Secretary and Director of Public Relations, 146 Wellington St. West, Toronto.

Alberta Motor Transport Association — J. Taylor, 1411 2nd St. East, Calgary.

Automotive Transport Association of British Columbia—G. L. Buckman, 810 Dominion Bank Bldg., Vancouver.

Manitoba Automotive Transportation Association—M. M. Wocks, 118 McDonald Ave., Winnipeg.

Automotive Transport Association of Ontario, Inc., J. O. Goodman, 146 Wellington St. W., Toronto.

Automotive Transport Association of Quebec —Camille Archambault, 1670 Parthenais St., Montreal.

Saskatchewan Motor Transport Association —Angus A. Mitchell, 6 Victoria Park Bldg., Regina.

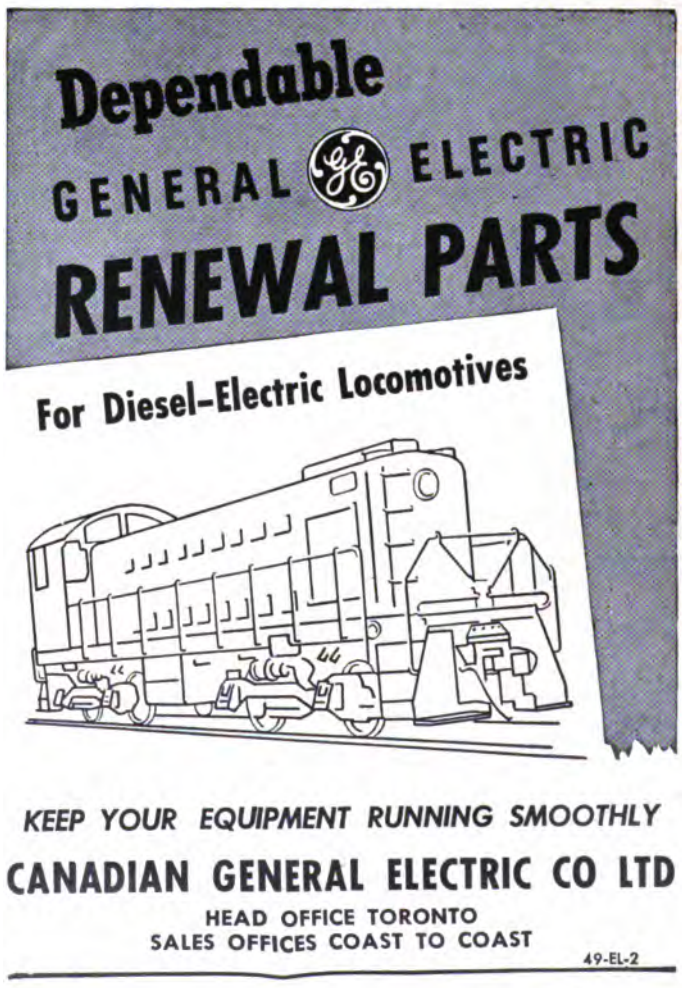
Canadian Car Demurrage Bureau—Eastern Lines: C. H. Thurber, Manager, 885 Lagauchetiere St. West, Montreal.—Western Lines: J. T. Corrie, Manager, Winnipeg.

Canadian Freight Association—
- Eastern Lines: G. F. Smith, Chairman, Room 108, 276 St. James St. West, Montreal.
- Western Lines: J. F. Flynn, Chairman, Room 44, C.P.R. Office Bldg., Winnipeg.

Canadian Industrial Traffic League—H. A. Mann, 13 Adelaide St. E., Toronto, General Secretary. Divisional Secretaries:—British Columbia, T. H. Whitson, Pacific Mills, Ltd., Vancouver; Ontario, S. V. Musselwhite, Victory Mills, Ltd., Toronto; Prairie, J. Scarfe, Security Storage Ltd., Winnipeg, Man., Quebec, A. J. Binnie, Dominion Tar and Chemical Co., Montreal. District Secretaries:—Essex-Kent, R. Scott, Canadian Industries, Ltd., Windsor, Ont.; Niagara Peninsula, W. J. Farr, McKinnon Industries, Ltd., St. Catharines. Annual meeting, Royal York Hotel, Toronto, February 12-13, 1951.

Canadian Passenger Association — Eastern Lines: C. J. Campbell, Vice Chairman, 437 St. James St., Montreal. Western Lines: Roy H. Powers, Vice Chairman, 320 Union Station, Winnipeg.

Canadian Passenger and Ticket Agents Association—R. L. Armstrong, C.P.R., Royal York Hotel, Toronto.



Canadian Railway Club—P.O. Box 162, Montreal 3, meetings at Mount Royal Hotel, Montreal, second Monday each month, except June, July and August, at 8 p.m.
Canadian Transit Association—H. E. King, 35 Yonge St., Toronto.
Dominion Motor Coach Association—R. J. Musgrove, 35 Yonge St., Toronto.
Engineering Institute of Canada—L. Austin Wright, 2050 Mansfield St., Montreal. Annual meeting, May 9-11, 1951, Montreal.
Express Traffic Association of Canada—G. H. Griffin, Manager, 885 Lagauchetiere St. West, Montreal.
L'Association des Proprietaires d'Autobus de Quebec—Wilbrod Bherer, 229 St. Joseph St., Quebec, Que.
Lake Carriers' Association—O. T. Burnham, 905 Rockfeller Bldg., Cleveland, 13, Ohio.
Lake Freight Association—J. Dow, 759 Victoria Square, Montreal.
Marine Club, Toronto—H. L. Rowntree, Secretary-Treasurer, Suite 209, 9 Richmond St. East, Toronto.
American Material Handling Society, Montreal Chapter—J. G Pope, % Northern Electric Co., Ltd., P.O. Drawer 6125, Montreal 3, Que.
Motor Truck Club of Toronto—G. Elliot, Canada Cartage Co. Ltd., 14 Cross St., Toronto.
National Association of Motor Bus Operators—A. W. Koehler, 839 17th St. N.W., Washington, 6, D.C.
Ontario Association of Motor Coach Operators—R. J. Musgrove, 35 Yonge St., Toronto.
Railway Association of Canada—J. A. Brass, General Secretary, 437 St. James St., Montreal. Western Lines: Roy H. Powers, Secretary, 320 Union Station, Winnipeg.
Railway Supply Manufacturers' Association—A. W. Brown, 60 East 42nd St., New York, 17, N.Y.
Shipping Federation of British Columbia—G. E. McKee, General Manager, 45 Dunlevy Ave., Vancouver.
Shipping Federation of Canada — C. T. Mearns, 300 St. Sacrament St., Montreal. Annual meeting, third Wednesday in March.
Toronto Passenger Club—Lyle Michie, Chicago, North Western Ry., Royal Bank Building, Toronto.
Toronto Railway Club—D. L. Chambers, P.O. Box 8, Postal Terminal A, Toronto. Meetings at Royal York Hotel, Toronto, fourth Monday of each month, except June, July and August. Annual meeting, Royal York Hotel, January 21, 1951.
Traffic Club of Hamilton—A. M. Johns, 4 King Street West, Hamilton, Ont. Meetings on second Thursday of each month, October to May. Annual meeting, December 14, 1950.
Traffic Club of Montreal—W. S. McConkey, Hon. Secretary-Treasurer, P.O. Box 433, Montreal. Meetings at Mount Royal Hotel, October to May. Annual meeting, third Wednesday in May.

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Specialists in all types of
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Transportation Club of Toronto—W. G. Hamilton, Chief Clerk, Freight Claims Office, C.P.R., Simcoe and Wellington Sts., Toronto.

YONGE STREET SUBWAY

TENDERS FOR THE SUPPLY OF THERMOPLASTIC INSULATED WIRE AND CABLE

Sealed tenders are invited for the supply of approximately 547,000 lineal feet of Thermoplastic Insulated Wire and Cable for the construction of additional sections of the Yonge Street Subway in the City of Toronto.

Schedule of sizes and quantities with specifications may be obtained from the Commission's Rapid Transit Department, 14 Front Street E., Toronto.

Tenderers shall quote price f.o.b. Commission's Warehouse, Toronto. Tenders should be endorsed "Tender for Wire and Cable, Yonge Street Subway," and addressed to the Chairman, Toronto Transportation Commission, Toronto, 35 Yonge Street, and should reach the office of the Commission not later than noon, Eastern Standard Time, on January 5th, 1951.

The terms of any escalator clause must be clearly defined.

The lowest or any tender not necessarily accepted.

WM. C. McBRIEN,
Chairman,
Toronto Transportation Commission.

YONGE STREET SUBWAY

TENDERS FOR A.C. DISTRIBUTION PANEL BOARDS

Sealed tenders are invited for the supply of 63 Distribution Panel Boards for the construction of the Yonge Street Subway in the City of Toronto.

Specifications and drawings may be obtained from the Commission's Rapid Transit Department, 14 Front Street E., Toronto.

Tenderers shall quote price F.O.B. Commission's Warehouse, Toronto. Tenders should be endorsed "Tender for A.C. Distribution Panel Boards, Yonge Street Subway" and addressed to the Chairman, Toronto Transportation Commission, 35 Yonge Street, Toronto, and should reach the office of the Commission not later than noon, Eastern Standard Time on Friday, the 5th January, 1951.

The terms of any escalator clause must be clearly defined.

The lowest or any tender not necessarily accepted.

WM. C. McBRIEN,
Chairman,
Toronto Transportation Commission

CHILLED IRON CAR WHEELS
for all services
RAILWAY CASTINGS
CAST IRON PIPE-FLANGED
and BELL and SPIGOT
CANADA IRON
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WHEN YOUR BUSINESS TAKES YOU OUT OF TOWN
Travellers' Cheques issued by Imperial Bank of Canada are honoured everywhere. You don't need to risk carrying cash.
IMPERIAL BANK OF CANADA
"THE BANK FOR YOU"

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Jacks—Stands—Washers
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NOW . . . for the first time . . . Sperry automatic steering from a standard magnetic compass is brought to the small-boat owner. Fishing vessels, work boats and pleasure craft can now obtain many of the advantages that larger ships enjoy from the larger Sperry Gyro-Pilot installations.

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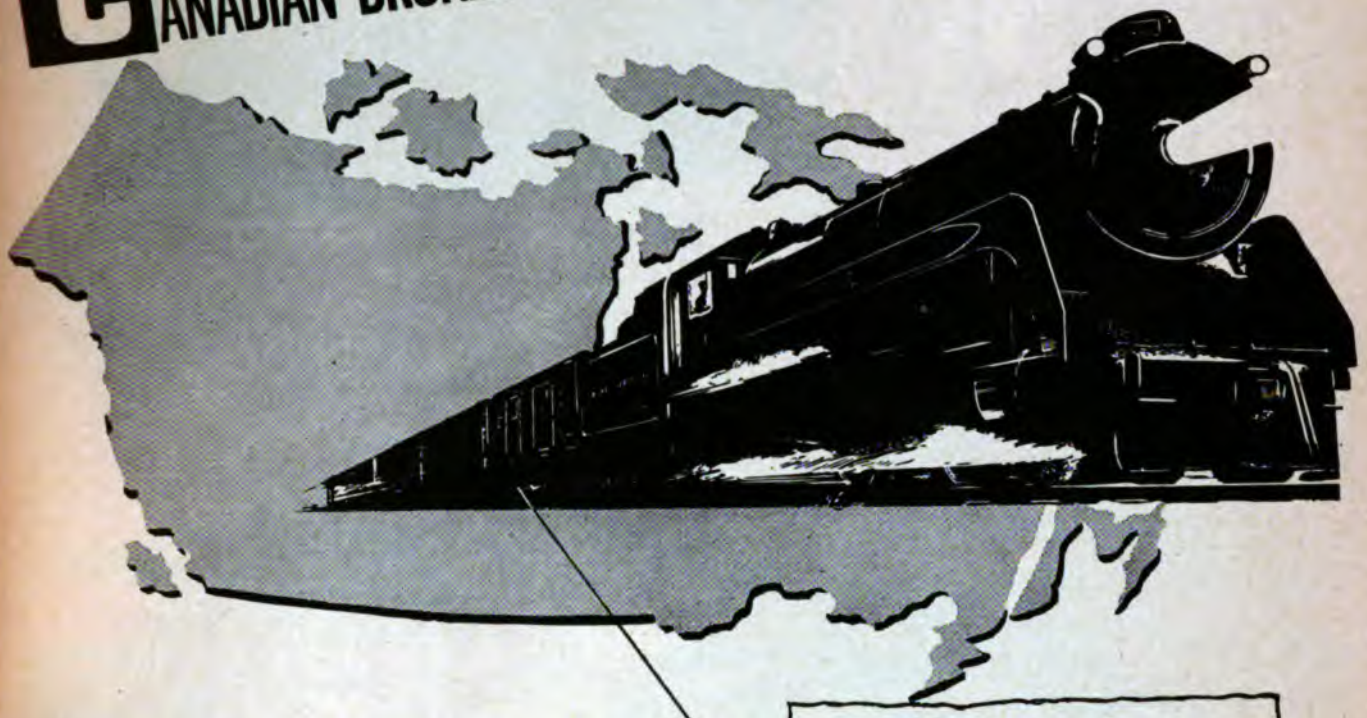
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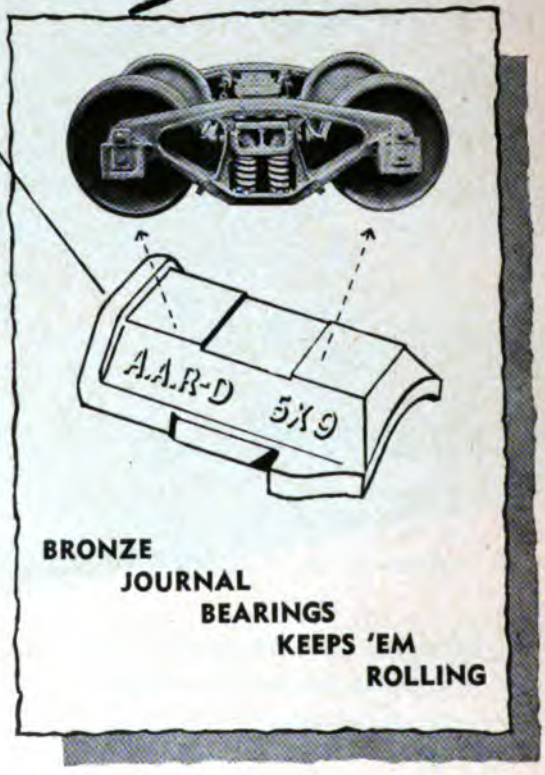


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Reduction of dead weight with proportionate increase in payload, but with no sacrifice of strength, is a highly profitable result of the use of Low Alloy High Strength steel in the transportation field. Some of the particular applications of this nickel-copper steel are railway rolling stock, coal bunkers, motor transport trailers and mine cars.

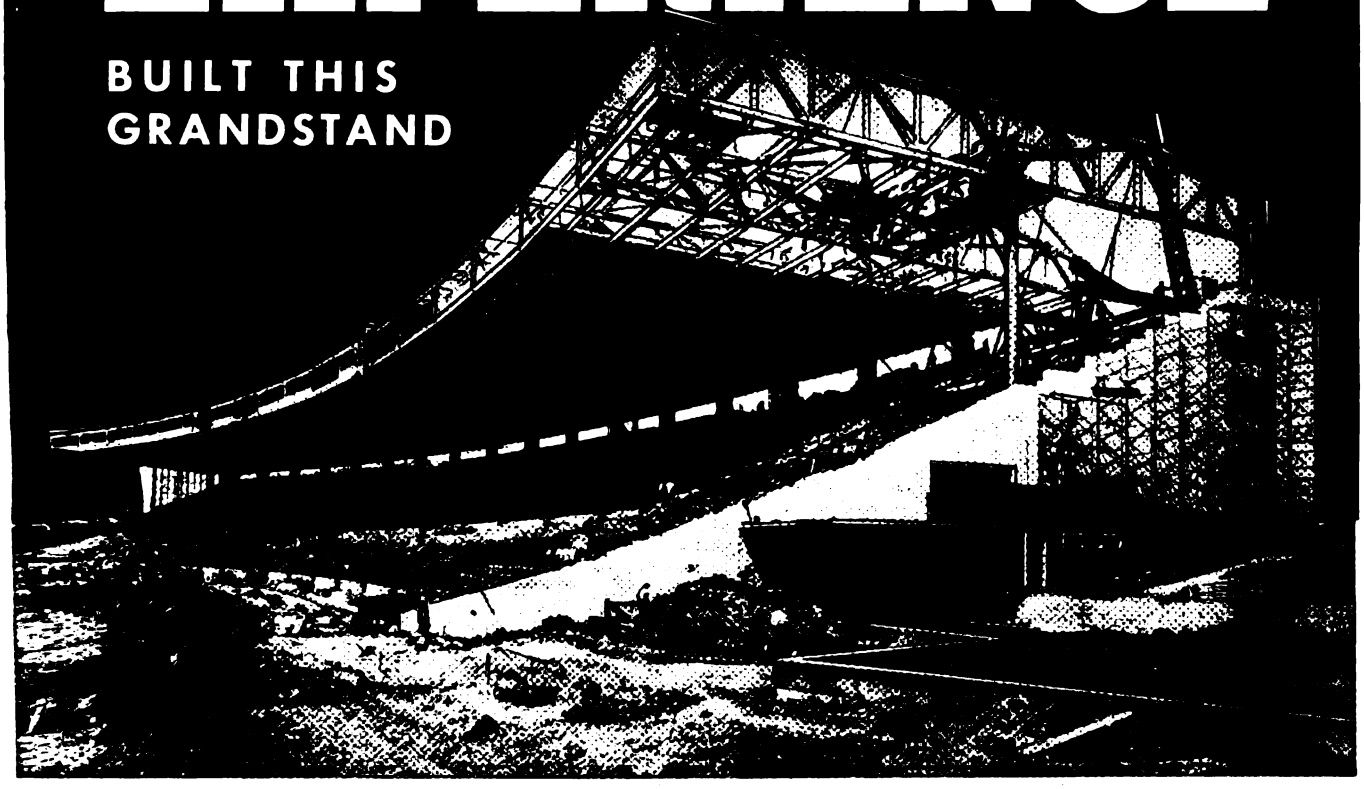
Low Alloy High Strength steel is readily formed and welded, and has excellent resistance to corrosion, shock and abrasion.
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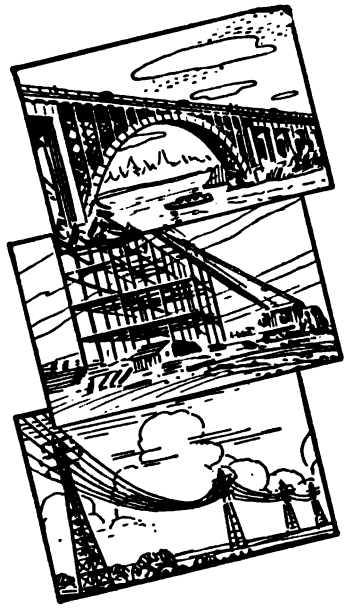
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THE INTERNATIONAL NICKEL COMPANY OF CANADA, LIMITED
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One of the most vital factors in the design, fabrication and erection of steel structures is the "know how"—gained from long experience—of the men on the job. For almost 50 years, Canadian Bridge has been acquiring a vast store of priceless knowledge and experience . . . in every climate . . . over every kind of terrain, not only in Canada but throughout the world. And today, the greater experience and varied skills of Canadian Bridge specialists, are at your disposal—to assure you of unqualified satisfaction and complete dependability.

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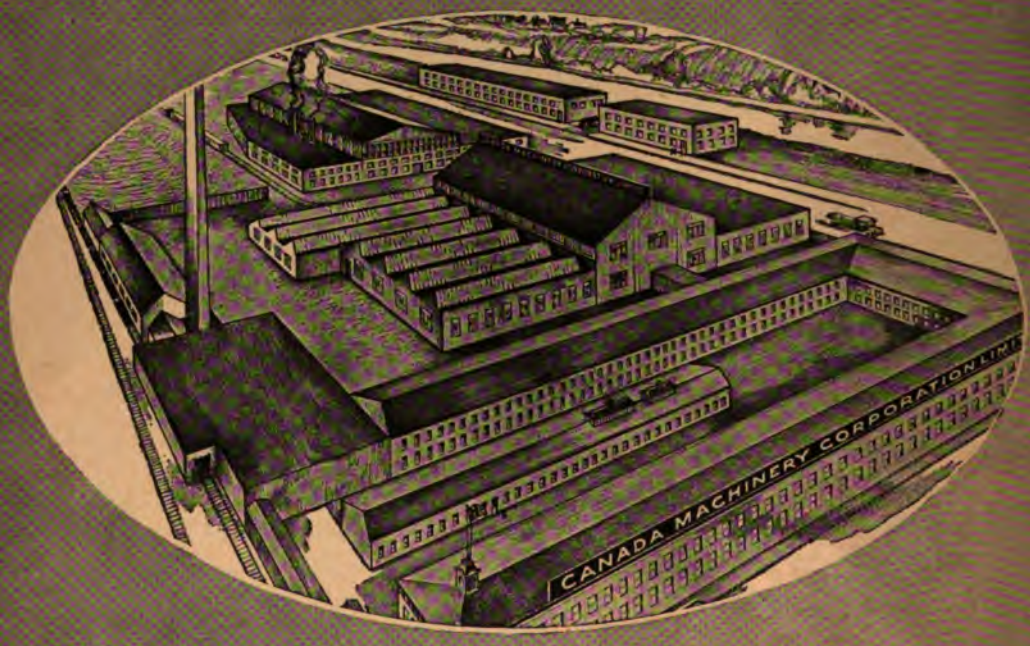
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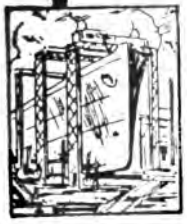
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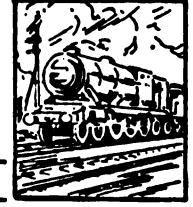
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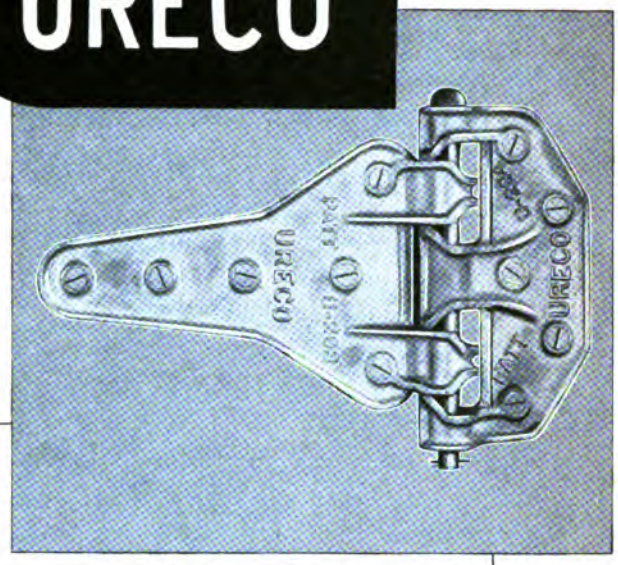
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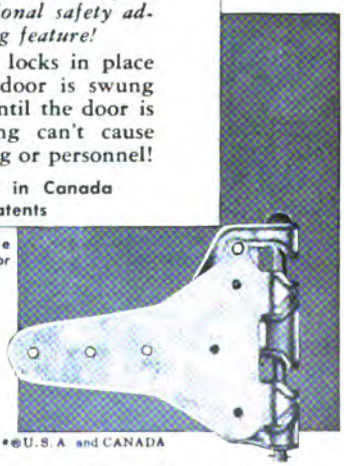


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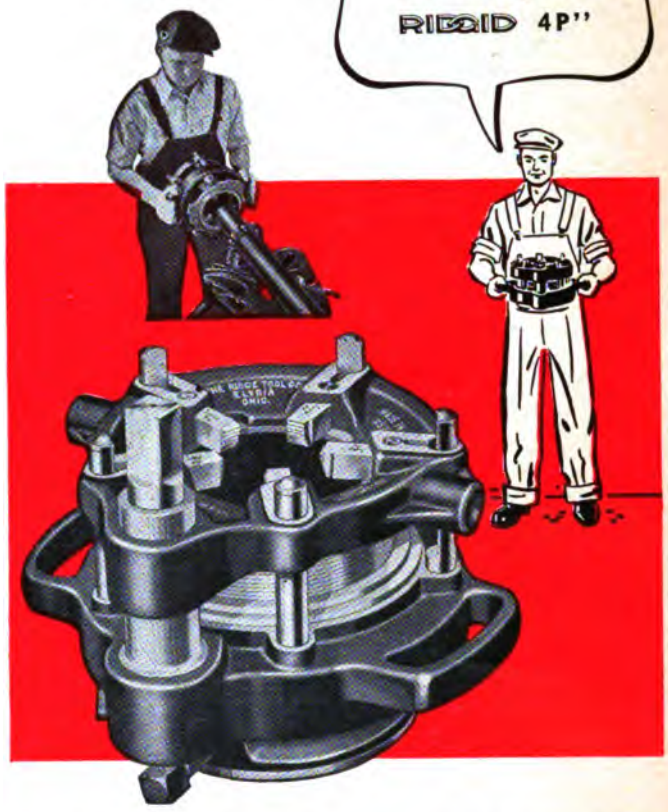
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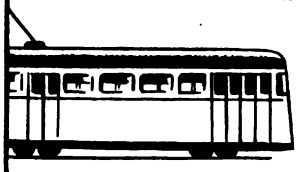
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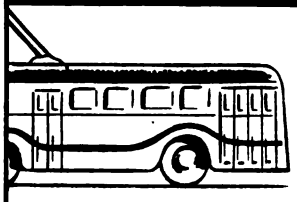
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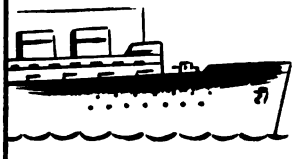
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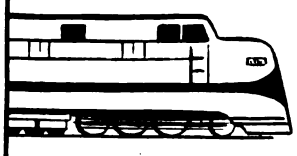
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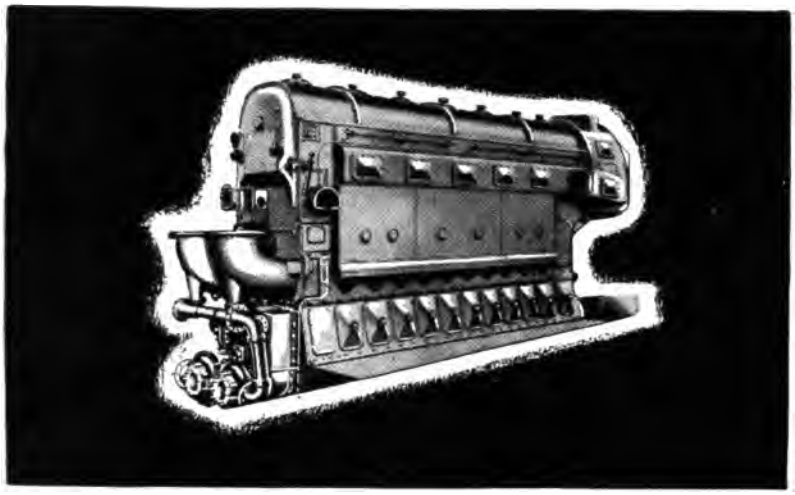
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